UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 71 PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL

Subpart A—General Provisions

Sec.
71.0 Purpose and scope.
71.1 Communications.
71.2 Interpretations.
71.3 Requirement for license.
71.4 Definitions.
71.5 Transportation of licensed material.
71.6 Information collection requirements: OMB approval.

Subpart B—Exemptions

71.7 Specific exemptions.
71.8 [Reserved]
71.9 Exemption of physicians.
71.10 Exemption for low-level materials.
71.11 [Reserved]

Subpart C—General Licenses.

71.12 General License: NRC approved package.
71.13 Previously approved Type B package.
71.14 General License: DOT specification container.
71.16 General License: Use of foreign approved package.
71.18 General License: Type A, Fissile Class II package.
71.20 General License: Restricted, Fissile Class II package.
71.22 General License: Type A package, Fissile Class III shipment.
71.24 General License: Restricted, Fissile Class III shipment.

Subpart D—Application for Package Approval

71.31 Contents of application.
71.33 Package discription.
71.35 Package evaluation.
71.37 Quality assurance.
71.39 Requirement for additional information.

Subpart E—Package Approval Standards

71.41 Demonstration of compliance.
71.43 General standards for all packages.
71.45 Lifting and tie-down standards for all packages.
Sec.
71.47 External radiation standards for all packages.
71.51 Additional requirements for Type B packages.
71.52 Exemption for low specific activity (LSA) packages.
71.53 Fissile material exemptions.
71.55 General requirements for all fissile material packages.
71.57 Specific standards for a Fissile Class I package.
71.59 Specific standards for a Fissile Class II package.
71.61 Specific standards for a Fissile Class III shipment.
71.63 Special requirements for plutonium shipments.
71.65 Additional requirements.

Subpart F—Package and Special Form Tests

71.71 Normal conditions of transport.
71.73 Hypothetical accident conditions.
71.75 Qualification of special form radioactive material.
71.77 Tests for special form radioactive material.

Subpart G—Operating Controls and Procedures

71.81 Applicability of operating controls and procedures.
71.83 Assumptions as to unknown properties.
71.85 Preliminary determinations.
71.87 Routine determinations.
71.88 Air transport of plutonium.
71.89 Opening instructions.
71.91 Records.
71.93 Inspection and tests.
71.95 Reports.
71.97 Advance notification of shipment of nuclear waste.
71.99 Violations.

Subpart H—Quality Assurance

71.101 Quality assurance requirements.
71.103 Quality assurance organization.
71.105 Quality assurance program.
71.107 Package design control.
71.109 Procurement document control.
71.111 Instructions, procedures, and drawings.
71.113 Document control.
71.115 Control of purchased material, equipment, and services.
71.117 Identification and control of materials, parts, and components.
71.119 Control of special processes.
71.121 Internal inspection.
71.123 Test control.
71.125 Control of measuring and test equipment.
71.127 Handling, storage, and shipping control.
71.129 Inspection, test, and operating status.
71.131 Nonconforming materials, parts, or components.
71.133 Corrective action.
71.135 Quality assurance records.
71.137 Audits.

Appendix A—Determination of A_1 and A_2.

48 FR 35600

Authority: Secs. 53, 57, 62, 63, 81, 161, 182, 183, 68 Stat. 930, 932, 933, 935, 948, 953, 954, as amended (42 U.S.C. 2073, 2077, 2092, 2093, 2111, 2201, 2232, 2233). Secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 71.97 also issued under sec. 301, Pub. L. 96–295, 94 Stat. 789–790.

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273), §§ 71.3, 71.43, 71.45, 71.55, 71.63 (a) and (b), 71.83, 71.85, 71.87, 71.89, and 71.97 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); and §§ 71.5(b), 71.91, 71.93, 71.95, and 71.101(a) are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

Subpart A—General Provisions

§ 71.0 Purpose and scope.

48 FR 38449

(a) This part establishes: (1) requirements for packaging, preparation for shipment, and transportation of licensed material; and (2) procedures and standards for NRC approval of packaging and shipping procedures for fissile material and for a quantity of other licensed material in excess of a Type A quantity.

48 FR 35600

(b) The packaging and transport of licensed material are also subject to other parts of this chapter (e.g., Parts 20, 21, 30, 40, 70, and 73) and to the regulations of other agencies (e.g., the U.S. Department of Transportation (DOT) and the U.S. Postal Service (USPS) [1]) having jurisdiction over means of transport. The requirements of this part are in addition to, and not in substitution for, other requirements.

(c) The regulations in this part apply to any licensee authorized by specific license issued by the Commission to receive, possess, use, or transfer licensed material if the licensee delivers that material to a carrier for transport or transports the material outside the confines of the licensee's facility, plant, or other authorized place of use. No provision of this part authorizes possession of licensed material.

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[1] Postal Service Manual (Domestic Mail Manual), section 124.3, which is incorporated by reference at 39 CFR 111.1 (1974).

(d) Exemptions from the requirement for license in § 71.3 are specified in § 71.10. General licenses for which no NRC package approval is required are issued in §§ 71.14–71.24. The general license in § 71.12 requires that an NRC certificate of compliance or other package approval be issued for the package to be used under the general license. Application for package approval must be completed in accordance with Subpart D of this part, demonstrating that the design of the package to be used satisfies the package approval standards contained in Subpart E of this part as related to the tests of Subpart F of this part. The transport of licensed material or delivery of licensed material to a carrier for transport is subject to the operating controls and procedures requirements of Subpart G of this part, to the quality assurance requirements of Subpart H of this part, and to the general provisions of Subpart A of this part, including DOT regulations referenced in § 71.5.

§ 71.1 Communications.

All communications concerning the regulations in this part should be addressed to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, or may be delivered in person at the Commission offices at 1717 H Street, NW., Washington, DC, or its offices at 7915 Eastern Avenue, Silver Spring, Maryland.

48 FR 35600

§ 71.2 Interpretations.

Only written interpretations of the regulations in this part by the Commission's General Counsel are binding upon the Commission.

§ 71.3 Requirement for license.

A licensee subject to the regulations in this part may not (a) deliver any licensed material to a carrier for transport or (b) transport licensed material except as authorized in a general license or a specific license issued by the Commission, or as exempted in this part.

§ 71.4 Definitions.

The following terms are as defined here for the purpose of this part. Throughout this part, the standards are expressed in metric units; the approximate English equivalents presented in parentheses are for information only.

A_1 means the maximum activity of special form radioactive material permitted in a Type A package. *A_2* means the maximum activity of radioactive material, other than special form radioactive material, permitted in a Type A package. These values are either listed in Appendix A of this part, Table A–1, or may be derived in accordance with the procedure prescribed in Appendix A of this part.

Carrier means a person engaged in the transportation of passengers or property by land or water as a common, contract, or private carrier, or by civil aircraft.

Close reflection by water means immediate contact by water of sufficient thickness for maximum reflection of neutrons.

Containment system means the components of the packaging intended to retain the radioactive material during transport.

Conveyance means any vehicle, aircraft, vessel, freight container, or hold, compartment, or defined deck area of an inland waterway craft or seagoing vessel.

Exclusive use (also referred to in other regulations as "sole use" or "full load") means the sole use of a conveyance by a single consignor and for which all initial, intermediate, and final loading and unloading are carried out in accordance with the direction of the consignor or consignee.

Fissile classification means the categorization of fissile material packages into one of the following three classes according to the controls needed to provide nuclear criticality safety during transportation:

(1) Fissile Class I: A package which may be transported in unlimited numbers and in any arrangement, and which requires no nuclear criticality safety controls during transportation. A transport index is not assigned for purposes of nuclear criticality safety but may be required because of external radiation levels.

(2) Fissile Class II: A package which may be transported together with other packages in any arrangement but, for criticality control, in numbers which do not exceed an aggregate transport index of 50. These shipments require no other nuclear criticality safety control during transportation. Individual packages may have a transport index not less than 0.1 and not more than 10.

(3) Fissile Class III: A shipment of packages which is controlled in transportation by specific arrangements between the shipper and the carrier to provide nuclear criticality safety.

48 FR 35600

Fissile material and *fissile radionuclides:* "Fissile material" means any material consisting of or containing one or more fissile radionuclides. Fissile radionuclides are plutonium-238, plutonium-239, plutonium-241, uranium-233, and uranium-235. Neither natural nor depleted uranium is fissile material. Fissile materials are classified in this section according to the controls needed to provide nuclear criticality safety during transportation. Certain exclusions are provided in § 71.53.

Low specific activity material means any of the following:

(1) Uranium or thorium ores and physical or chemical concentrates of those ores;

(2) Unirradiated natural or depleted uranium or unirradiated natural thorium;

(3) Tritium oxide in aqueous solutions provided the concentration does not exceed 5.0 millicuries per milliliter;

(4) Material in which the radioactivity is essentially uniformly distributed and in which the estimated average concentration per gram of contents does not exceed:

(i) 0.0001 millicurie of radionuclides for which the A_2 quantity in Appendix A of this part is not more than 0.05 curie;

(ii) 0.005 millicurie of radionuclides for which the A_2 quantity in Appendix A of this part is more than 0.05 curie, but not more than 1 curie; or

(iii) 0.3 millicurie of radionuclides for which the A_2 quantity in Appendix A of this part is more than 1 curie.

48 FR 35600

(5) Objects of nonradioactive material externally contaminated with radioactive material, provided that the radioactive material is not readily dispersible and the surface contamination, when averaged over an area of 1 square meter, does not exceed 0.0001 millicurie (220,000 disintegrations per minute) per square centimeter of radionuclides for which the A_2 quantity in Appendix A of Part 71 is not more than 0.05 curie, or 0.001 millicurie (2,200,000 disintegrations per minute) per square centimeter for other radionuclides.

48 FR 38449

Maximum normal operating pressure means the maximum gauge pressure that would develop in the containment system in a period of one year under the heat test specified in § 71.71(c)(1), in the absence of venting, external cooling by an ancillary system, or operational controls during transport.

Natural thorium means thorium with the naturally occurring distribution of thorium isotopes (essentially 100 weight percent thorium-232).

Normal form radioactive material means radioactive material which has not been demonstrated to qualify as "special form radioactive material."

Optimum interspersed hydrogenous moderation means the presence of hydrogenous material between packages to such an extent that the maximum nuclear reactivity results.

Package means the packaging together with its radioactive contents as presented for transport.

(1) *Fissile material package* means a fissile material packaging together with its fissile contents.

48 FR 35600

(2) *Type B package* means a Type B package together with its radioactive contents. On approval, a Type B package design is designated by NRC as B(U) unless the package has a maximum normal operating pressure of more than 700 kilopascal (100 1b/in²) gauge or a pressure relief device which would allow the release of radioactive material to the environment under the tests specified in § 71.73 (hypothetical accident conditions), in which case it will receive a designation B(M). B(U) refers to the need for unilateral approval of international shipments; B(M) refers to the need for multilateral approval. There is no distinction made in how packages with these designations may be used in domestic transportation. To determine their distinction for international transportation, see DOT regulations in 49 CFR Part 173. A Type B package approved prior to September 6, 1983, was designated only as Type B. Limitations on its use are specified in § 71.13.

Packaging means the assembly of components necessary to ensure compliance with the packaging requirements of this part. It may consist of one or more receptacles, absorbent materials, spacing structures, thermal insulation, radiation shielding, and devices for cooling or absorbing mechanical shocks. The vehicle, tie-down system, and auxiliary equipment may be designated as part of the packaging.

48 FR 35600

Special form radioactive material means radioactive material which satisfies the following conditions:

(1) It is either a single solid piece or is contained in a sealed capsule that can be opened only by destroying the capsule;

(2) The piece or capsule has at least one dimension not less than 5 millimeters (0.197 inch); and

(3) It satisfies the test requirements of § 71.75.

A special form encapsulation designed in accordance with the requirements of § 71.4(o) of this part in effect on June 30, 1983, and constructed prior to July 1, 1985 may continue to be used. A special form encapsulation either designed or constructed after June 30, 1985 must meet requirements of this paragraph applicable at the time of its design or construction.

Specific activity of a radionuclide means the radioactivity of the radionuclide per unit mass of that nuclide. The specific activity of a material in which the radionuclide is essentially uniformly distributed is the radioactivity per unit mass of the material.

State means the several States of the Union, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the trust Territory of the Pacific Islands, and the Commonwealth of the Northern Mariana Islands.

Transport index means the dimensionless number (rounded up to the first decimal place) placed on the label of a package to designate the degree of control to be exercised by the carrier during transportation. The transport index is determined as follows:

(1) The number expressing the maximum radiation level in millirem per hour at 1 meter from the external surface of the package; or

(2) For Fissile Class II packages, the number expressing the maximum radiation level in millirem per hour at 1 meter from the external surface of the package, or the number obtained by dividing 50 by the allowable number of the packages which may be transported together as determined under § 71.59, whichever number is larger.

Type A quantity means a quantity of radioactive material, the aggregate radioactivity of which does not exceed A_1 for special form radioactive material or A_2 for normal form radioactive material, where A_1 and A_2 are given in Appendix A of this part or may be determined by procedures described in Appendix A of this part.

Type B quantity means a quantity of radioactive material greater than a Type A quantity.

48 FR 35600

Uranium—natural depleted enriched

(1) *Natural uranium* means uranium with the naturally occurring distribution of uranium isotopes (approximately 0.711 weight percent uranium-235, and the remainder essentially uranium-238).

(2) *Depleted uranium* means uranium containing less uranium-235 than the naturally occurring distribution of uranium isotopes.

(3) *Enriched uranium* means uranium containing more uranium-235 than the naturally occurring distribution of uranium isotopes.

§ 71.5 Transportation of licensed material.

(a) Each licensee who transports licensed material outside of the confines of its plant or other place of use, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the regulations appropriate to the mode of transport of DOT in 49 CFR Parts 170 through 189.

(1) The licensee shall particularly note DOT regulations in the following areas:

(i) Packaging—49 CFR Part 173, Subparts A and B and §§ 173.401–173.478.

(ii) Marking and labeling—49 CFR Part 172, Subpart D and §§ 172.400–172.407; 172.436–172.440.

(iii) Placarding—49 CFR Part 172.500–172.519,172.556 and Appendices B and C.

(iv) Monitoring—49 CFR Part 172, Subpart C.

(v) Accident reporting—49 CFR Part 171.15 and 171.16.

(vi) Shipping papers—49 CFR Part 172, Subpart C.

(2) The licensee shall also note DOT regulations pertaining to the following modes of transportation:

(i) Rail—49 CFR Part 174, Subparts A–D and K.

(ii) Air—49 CFR Part 175, Subparts A–D and M.

(iii) Vessel—49 CFR Part 176, Subparts A–D and M.

(iv) Public Highway—49 CFR Part 177.

(b) If DOT regulations are not applicable to a shipment of licensed material by rail, highway, or water because the shipment or the transportation of the shipment is not in interstate or foreign commerce, or to a shipment of licensed material by air because the shipment is not transported in civil aircraft, the licensee shall conform to the standards and requirements of the DOT specified in paragraph (a) of this section to the same extent as if the shipment or transportation were in interstate or foreign commerce or in civil aircraft. A request for modification, waiver, or exemption from those requirements, and any notification referred to in those requirements, must be filed with or made to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

48 FR 35600

§ 71.6 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150–0008.

(b) The approved information collection requirements contained in this part appear in §§ 71.5, 71.12, 71.31, 71.33, 71.35, 71.37, 71.85, 71.87, 71.89, 71.91, 71.93, 71.95, 71.97, 71.101, 71.103, 71.105, 71.107, 71.109, 71.111, 71.113, 71.115, 71.117, 71.119, 71.121, 71.123, 71.125, 71.127, 71.129, 71.131, 71.133, 71.135, and 71.137.

49 FR 19623

(next page is 71-3a)

Subpart B—Exemptions

§ 71.7 Specific exemptions.

On application of any interested person or on its own initiative, the Commission may grant any exemption from the requirements of the regulations in this part that it determines is authorized by law and will not endanger life or property or the common defense and security.

§ 71.8 [Reserved]

48 FR 35600

§ 71.9 Exemption of physicians.

Any physician licensed by a State of the United States to dispense drugs in the practice of medicine is exempt from § 71.5 with respect to transport by the physician of licensed material for use in the practice of medicine. However, any physician operating under this exemption must be licensed under 10 CFR Part 35.

§ 71.10 Exemption for low level materials.

(a) A licensee is exempt from all requirements of this part with respect to shipment or carriage of a package containing radioactive material having a specific activity not greater than 0.002

microcurie/gram.

(b) A licensee is exempt from all requirements of this part, other than § 71.5 and § 71.88, with respect to shipment or carriage of the following packages:

(1) A package containing no more than a Type A quantity of radioactive material if the package contains no fissile material or if the fissile material exemption standards of § 71.53 are satisfied; or

(2) A package transported between locations within the United States which contains only americium or plutonium in special form with an aggregate radioactivity not to exceed 20 curies, if the package contains no fissile material or if the fissile material exemption standards of § 71.53 are satisfied.

§ 71.11 [Reserved]

Subpart C—General Licenses

§ 71.12 General license: NRC approved package.

(a) A general license is hereby issued to any licensee of the Commission to transport, or to deliver to a carrier for transport, licensed material in a package for which a license, certificate of compliance, or other approval has been issued by the NRC.

(b) This general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of Subpart H of this part.

48 FR 35600

(c) This general license applies only to a licensee who:

(1) Has a copy of the specific license, certificate of compliance, or other approval of the package and has the drawings and other documents referenced in the approval relating to the use and maintenance of the packaging and to the actions to be taken prior to shipment;

(2) Complies with the terms and conditions of the license, certificate, or other approval, as applicable, and the applicable requirements of Subparts A, G, and H of this part; and

(3) Submits in writing to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, prior to the licensee's first use of the package, the licensee's name and license number and the package identification number specified in the package approval.

(d) This general license applies only when the package approval authorizes use of the package under this general license.

48 FR 38449

(e) For previously approved Type B packages which are not designated as either B(U) or B(M) in the NRC Certificate of Compliance, this general license is subject to the additional restrictions of § 71.13.

§ 71.13 Previously approved Type B package.

(a) A Type B package previously approved by the NRC, but not designated as B(U) or B(M) in the NRC Certificate of Compliance, may be used under the general license of § 71.12 with the following additional limitations:

(1) Fabrication of the packaging was satisfactorily completed before August 31, 1986, as demonstrated by application of its model number in accordance with § 71.85(c); and

(2) The package may not be used for a shipment to a location outside the United States after August 31, 1986, except under special arrangement approved by DOT in accordance with 49 CFR 173.471.

(b) The NRC will approve modifications to the design and authorized contents of a Type B package previously approved by the NRC, but not designated as B(U) or B(M) in the NRC Certificate of Compliance, provided:

48 FR 35600

(1) The modifications are not significant with respect to the design, operating characteristics, or safe performance of the containment system when the package is subjected to the tests specified in §§ 71.71 and 71.73; and

(2) The modification to the package satisfies the requirements of this part.

(c) The NRC will revise the package identification number to designate previously approved Type B package designs as B(U) or B(M) after receipt of an application demonstrating that the design meets the requirements of this part.

§ 71.14 General license: DOT specification container.

(a) A general license is issued to any licensee of the Commission to transport or to deliver to a carrier for transport licensed material in a specification container for fissile material or for a Type B quantity of radioactive material as specified in the regulations of DOT in 49 CFR Parts 173 and 178.

(b) This general license applies only to a licensee who has a quality assurance program approved by the Commission as satisfying the provisions of Subpart H of this part.

(c) This general license applies only to a licensee who:

(1) Has a copy of the specification; and

(2) Complies with the terms and conditions of the specification and the applicable requirements of Subparts A, G, and H of this part.

(d) This general license is subject to the limitation that the specification container may not be used for a shipment to a location outside the United States after August 31, 1986, except under special arrangements approved by DOT in accordance with 49 CFR 173.472.

§ 71.16 General License: Use of foreign approved package.

(a) A general license is issued to any licensee of the Commission to transport or to deliver to a carrier for transport licensed material in a package the design of which has been approved in a foreign national competent authority certificate which has been revalidated by DOT as meeting the applicable requirements of 49 CFR 171.12.

48 FR 35600

(b) This general license applies only to shipments made to or from locations outside the United States.

(c) This general license applies only to a licensee who:

(1) Has a copy of the applicable certificate, the revalidation, and the drawings and other documents referenced in the certificate relating to the use and maintenance of the packaging and to the actions to be taken prior to shipment; and

48 FR 38449

(2) Complies with the terms and conditions of the certificate and revalidation and with the applicable requirements of Subparts A, G, and H of this part. With respect to the quality assurance provisions of Subpart H of this part, the licensee is exempt from design, construction, and fabrication considerations.

§ 71.18 General license: Type A, Fissile Class II package.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part if the material is shipped as a Fissile Class II package.

48 FR 35600

(b) This general license applies only when a package contains no more than a Type A quantity of radioactive material, including only one of the following:

(1) Up to 40 grams of uranium-235; or

(2) Up to 30 grams of uranium-233; or

(3) Up to 25 grams of the fissile radionuclides of plutonium, except that for encapsulated plutonium-beryllium neutron sources in special form, an A_1 quantity of plutonium may be present; or

(4) A combination of fissile radionuclides in which the sum of the ratios of the amount of each radionuclide to the corresponding

maximum amounts in paragraphs (b) (1), (2), and (3) of this section does not exceed unity.

(c) This general license applies only when, except as specified below for encapsulated plutonium-beryllium sources, a package containing more than 15 grams of fissile radionuclides is labeled with a transport index not less than the number given by the following equation, where the package contains x grams of uranium-235, y grams of uranium-233 and z grams of the fissile radionuclides of plutonium:

$$\text{Minimum Transport Index} = (0.40x + 0.67y + z)\left(1 - \frac{15}{x + y + z}\right).$$

For a package in which the only fissile material is in the form of encapsulated plutonium-beryllium neutron sources in special form, the transport index based on criticality considerations may be taken as 0.026 times the number of grams of the fissile radionuclides of plutonium in excess of 15 grams. In all cases, the transport index must be rounded up to one decimal place, and may not exceed 10.0.

§ 71.20 General license: Restricted, Fissile Class II package.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part if the material is shipped as a Fissile Class II package.

(b) This general license applies only when:

(1) The package contains no more than a Type A quantity of radioactive material; and

(2) Neither beryllium nor hydrogenous material enriched in deuterium is present; and

(3) The total mass of graphite present does not exceed 150 times the total mass of uranium-235 plus plutonium; and

(4) Substances having a higher hydrogen density than water, e.g., certain hydrocarbon oils, are not present, except that polyethylene may be used for packing or wrapping; and

(5) Uranium-233 is not present, and the amount of plutonium does not exceed 1% of the amount of uranium-235; and

(6) The amount of uranium-235 is limited as follows:

(i) If the fissile radionuclides are not uniformly distributed, the maximum amount of uranium-235 per package may not exceed the value given in Table I of this part; or

(ii) If the fissile radionuclides are distributed uniformly (i.e., cannot form a lattice arrangement within the packaging) the maximum amount of uranium-235 per package may not exceed the value given in Table II of this part; and

(7) The transport index of each package based on criticality considerations is taken as 10 times the number of grams of uranium-235 in the package divided by the maximum allowable number of grams per package in accordance with Table I or Table II of this part as applicable.

TABLE I.—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE CLASS II PACKAGE APPLICABLE TO § 71.20(b)(6)(i)

[Non-uniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per package
24	40
20	42
15	45
11	48
10	51
9.5	52
9	54
8.5	55
8	57
7.5	59
7	60
6.5	62
6	65
5.5	68
5	72
4.5	76
4	80
3.5	88
3	100
2.5	120
2	164
1.5	272
1.35	320
1	680
0.92	1,200

TABLE II.—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE CLASS II PACKAGE APPLICABLE TO § 71.20(b)(6)(ii)

[Uniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per package
4	84
3.5	92
3	112
2.5	148
2	240
1.5	560
1.35	800

§ 71.22 General license: Type A package, Fissile Class III shipment.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part if limited material is shipped as a Fissile Class III shipment.

(b) This general license applies only when a package contains no more than a Type A quantity of radioactive material and no more than 400 grams total of the fissile radionuclides of plutonium encapsulated as plutonium-beryllium neutron sources in special form.

(c) This general license applies only when the fissile radionuclides in the Fissile Class III shipment exceeds none of the following:

(1) 500 grams of uranium-235; or

(2) 300 grams total of uranium-233, and the fissile radionuclides of plutonium; or

(3) A total quantity of uranium-233, uranium-235, and the fissile radionuclides of plutonium such that the sum of the ratios of the quantity of each radionuclide to the quantity specified in paragraphs (c)(1) and (c)(2) of this section exceeds unity; or

(4) 2500 grams total of the fissile radionuclides of plutonium encapsulated as plutonium-beryllium neutron sources in special form.

(d) This general license applies only when shipment of these packages is made under procedures specifically authorized by DOT in accordance with 49 CFR Part 173 of its regulations to prevent loading, transport or storage of these packages with other Fissile Class II packages or Fissile Class III shipments.

§ 71.24 General license: Restricted, Fissile Class III shipment.

(a) A general license is issued to any licensee of the Commission to transport fissile material, or to deliver fissile material to a carrier for transport, without complying with the package standards of Subparts E and F of this part if limited material is shipped as a Fissile Class III shipment.

(b) This general license applies only when:

(1) No package contains more than a Type A quantity of radioactive material; and

(2) The packaging does not incorporate lead shielding exceeding 5 cm in thickness, tungsten shielding, or uranium shielding; and

(3) Neither beryllium nor hydrogenous material enriched in deuterium is present; and

(4) The total mass of graphite present does not exceed 150 times the total mass of uranium-235 and plutonium; and

(5) Substances having a higher hydrogen density than water, e.g., certain hydrocarbon oils, are not present, except that polyethylene may be used for packing or wrapping; and

(6) For fissile contents containing no uranium-233 and less than 1% total plutonium:

(i) If the fissile radionuclides are not uniformly distributed, the maximum amount of uranium-235 per consignment does not exceed the value given in Table III of this part; or

(ii) If the fissile radionuclides are distributed uniformly and cannot form a lattice arrangement within the packaging, the maximum amount of uranium-235 per shipment does not exceed the value given in Table IV of this part; and

(7) For fissile contents containing uranium-233 or more than 1% plutonium, the total mass of fissile material per shipment is limited so that the sum of the number of grams of uranium-235 divided by 400, the number of grams of plutonium divided by 225, and the number of grams of uranium-233 divided by 250 does not exceed unity as expressed in the formula

$$\frac{\text{grams uranium}\quad 235}{400\ \text{grams}} + \frac{\text{grams plutonium}}{225\ \text{grams}} + \frac{\text{grams uranium}\quad 233}{250\ \text{grams}} \leq 1\text{: and}$$

(8) The transport must be direct to the consignee without any intermediate transit storage; and

(9) Shipment of these packages is made under procedures specifically authorized by DOT in accordance with 49 CFR Part 173 of its regulations to prevent loading, transport or storage of these packages with other Fissile Class II packages or Fissile Class III shipments.

TABLE III.—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE CLASS III SHIPMENT APPLICABLE TO § 71.24(b)(6)(i)

[NonUniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per consignment
20	520
15	580
11	630
10	640
9.5	655
9	675
8.5	690
8	710
7.5	730
7	750
6.5	780
6	810
5.5	850
5	900
4.5	950
4	1,000
3.5	1,100
3	1,250
2.5	1,500
2	2,050
1.5	3,400
1.35	4,000
1	8,500
0.92	15,000

TABLE IV.—PERMISSIBLE MASS OF URANIUM-235 PER FISSILE CLASS III SHIPMENT APPLICABLE TO § 71.24(b)(6)(ii)

[Uniform distribution]

Uranium enrichment in weight percent of uranium-235 not exceeding	Permissible maximum grams of uranium-235 per consignment
4	1,050
3.5	1,150
3	1,400
2.5	1,800
2	3,000
1.5	7,000
1.35	10,000

Subpart D—Application for Package Approval

§ 71.31 Contents of application.

(a) An application for an approval under this part must include, for each proposed packaging design, the following information:

(1) A package description as required by § 71.33;

(2) A package evaluation as required by § 71.35;

(3) A quality assurance program description as required by § 71.37;

(4) In the case of fissile material, an identification of the proposed fissile class.

(b) Except as provided in § 71.13, an application for modification of a package design, whether for modification of the packaging or authorized contents, must include sufficient information to demonstrate that the proposed design satisfies the package standards in effect at the time the application is filed.

§ 71.33 Package description.

The application must include a description of the proposed package in sufficient detail to identify the package accurately and provide a sufficient basis for evaluation of the package. The description must include:

(a) With respect to the packaging:

(1) Classification as Type B(U), Type B(M), or fissile material packaging;

(2) Gross weight;

(3) Model number;

(4) Identification of the containment system;

(5) Specific materials of construction, weights, dimensions, and fabrication methods of:

(i) Receptacles;

(ii) Materials specifically used as nonfissile neutron absorbers or moderators;

(iii) Internal and external structures supporting or protecting receptacles;

(iv) Valves, sampling ports, lifting devices, and tie-down devices;

(v) Structural and mechanical means for the transfer and dissipation of heat; and

(6) Identification and volumes of any receptacles containing coolant.

(b) With respect to the contents of the package:

(1) Identification and maximum radioactivity of radioactive constituents;

(2) Identification and maximum quantities of fissile constituents;

(3) Chemical and physical form;

(4) Extent of reflection, the amount and identity of nonfissile materials used as neutron absorbers or moderators, and the atomic ratio of moderator to fissile constituents;

(5) Maximum normal operating pressure;

(6) Maximum weight;

(7) Maximum amount of decay heat; and

(8) Identification and volumes of any coolants.

§ 71.35 Package evaluation.

The application must include:

(a) A demonstration that the package satisfies the standards specified in Subparts E and F of this part;

(b) For a Fissile Class II package, the allowable number of packages which may be transported in the same vehicle in accordance with § 71.59; and

(c) For a Fissile Class III shipment, any proposed special controls and precautions for transport, loading, unloading, and handling, and any proposed special controls in the event of accident or delay.

§ 71.37 Quality assurance.

(a) The applicant shall describe the quality assurance program (see Subpart H of this part) for the design, fabrication, assembly, testing, maintenance, repair, modification, and use of the proposed package.

(b) The applicant shall identify any established codes and standards proposed for use in package design, fabrication, assembly, testing, maintenance, and use. In the absence of any codes and standards, the applicant shall describe the basis and rationale used to formulate the package quality assurance program.

(c) The applicant shall identify any specific provisions of the quality assurance program which are applicable to the particular package design under consideration, including a description of the leak testing procedures.

48 FR 35600

§ 71.39 Requirement for additional information.

The Commission may at any time require additional information in order to enable it to determine whether a license, certificate of compliance, or other approval should be granted, denied, modified, suspended, or revoked.

Subpart E—Package Approval Standards

§ 71.41 Demonstration of compliance.

(a) The effects on a package of the tests specified in § 71.71 (Normal Conditions of Transport) and the tests specified in § 71.73 (Hypothetical Accident Conditions) must be evaluated by subjecting a sample package or scale model to test, or by other method of demonstration acceptable to the Commission, as appropriate for the particular feature being considered.

(b) Taking into account the type of vehicle, the method of securing or attaching the package, and the controls to be exercised by the shipper, the Commission may permit the shipment to be evaluated together with the transporting vehicle.

(c) Environmental and test conditions different from those specified in § 71.71 and § 71.73 may be approved by the Commission if the controls proposed to be exercised by the shipper are demonstrated to be adequate to assure the safety of the shipment.

§ 71.43 General standards for all packages.

(a) The smallest overall dimension of a package must not be less than 10 cm (four in.).

(b) The outside of a package must incorporate a feature, such as a seal, which is not readily breakable, and which, while intact, would be evidence that the package has not been opened by unauthorized persons.

(c) Each package must include a containment system securely closed by a positive fastening device which cannot be opened unintentionally.

(d) A package must be of materials and construction which assure that there will be no significant chemical, galvanic, or other reaction among the packaging components or between the packaging components and the package contents, including possible reaction resulting from inleakage of water to the maximum credible extent.

(e) A package valve or other device, the failure of which would allow radioactive contents to escape, must be protected against unauthorized operation and, except for a pressure relief device, must be provided with an enclosure to retain any leakage.

48 FR 35600

(f) A package must be designed, constructed, and prepared for shipment so that under the tests specified in § 71.71 (Normal Conditions of Transport) there would be no loss or dispersal of radioactive contents, no significant increase in external radiation levels, and no substantial reduction in the effectiveness of the packaging.

(g) A package must be designed, constructed, and prepared for transport so that in still air at 38°C (100°F) and in the shade, no accessible surface of a package would have a temperature exceeding 50°C (122°F) in a non-exclusive use shipment or 82°C (180°F) in an exclusive use shipment.

(h) A package must not incorporate a feature which is intended to allow continuous venting during transport.

§ 71.45 Lifting and tie-down standards for all packages.

(a) Any lifting attachment that is a structural part of a package must be designed with a minimum safety factor of three against yielding when used to lift the package in the intended manner, and must be designed so that failure of any lifting device under excessive load would not impair the ability of the package to meet other requirements of this subpart. Any other structural part of the package which could be used to lift the package must be capable of being rendered inoperable for lifting the package during transport or must be designed with strength equivalent to that required for lifting attachments.

(b) Tie-down devices:

48 FR 35600

(1) If there is a system of tie-down devices which is a structural part of the package, the system must be capable of withstanding, without generating stress in any material of the package in excess of its yield strength, a static force applied to the center of gravity of the package having a vertical component of two times the weight of the package with its contents, a horizontal component along the direction in which the vehicle travels of 10 times the weight of the package with its contents, and a horizontal component in the transverse direction of five times the weight of the package with its contents.

48 FR 38449

(2) Any other structural part of the package which could be used to tie down the package must be capable of being rendered inoperable for tying down the package during transport, or must be designed with strength equivalent to that required for tie-down devices.

(3) Each tie-down device which is a structural part of a package must be designed so that failure of the device under excessive load would not impair the ability of the package to meet other requirements of this part.

§ 71.47 External radiation standards for all packages.

48 FR 35600

A package must be designed and prepared for shipment so that the radiation level does not exceed 200 millirem per hour at any point on the external surface of the package and the transport index does not exceed 10 (See § 71.4 "Definitions"). For a package transported as exclusive use by rail, highway, or water, radiation levels external to the package may exceed those limits, but must not exceed any of the following:

(a) 200 millirem/hour on the accessible external surface of the package unless the following conditions are met, in which case the limit is 1000 millirem per hour:

(1) The shipment is made in a closed transport vehicle;

(2) Provisions are made to secure the package so that its position within the vehicle remains fixed during transportation; and

(3) There are no loading or unloading operations between the beginning and end of the transportation;

(b) 200 millirem/hour at any point on the outer surface of the vehicle, including the upper and lower surfaces, or, in the case of an open vehicle, at any point on the vertical planes projected from the outer edges of the vehicle, on the upper surface of the load, and on the lower external surface of the vehicle;

(c) 10 millirem/hour at any point two

meters from the vertical planes represented by the outer lateral surfaces of the vehicle, or, in the case of an open vehicle, at any point two meters from the vertical planes projected from the outer edges of the conveyance; and

(d) Two millirem/hour in any normally occupied positions of the vehicle, except that this provision does not apply to private motor carriers when persons occupying these positions are provided with special health supervision, personnel radiation exposure monitoring devices, and training in accordance with § 19.12 of this chapter.

§ 71.51 Additional requirements for Type B packages.

(a) A Type B package, in addition to satisfying the requirements of §§ 71.41–71.47 must be designed, constructed, and prepared for shipment so that under the tests specified in:

(1) Section 71.71 (Normal Conditions of Transport), there would be no loss or dispersal of radioactive contents, as demonstrated to a sensitivity of $10^{-6} A_2$ per hour, no significant increase in external radiation levels, and no substantial reduction in the effectiveness of the packaging; and

(2) Section 71.73 (Hypothetical Accident Conditions), there would be no escape of kryption–85 exceeding 10,000 curies in one week, no escape of other radioactive material exceeding a total amount A_2 in one week, and no external radiation dose rate exceeding one rem per hour at one meter from the external surface of the package.

48 FR 35600

(b) Compliance with the permitted activity release limits of paragraph (a) of this section must not depend upon filters or upon a mechanical cooling system.

§ 71.52 Exemption for low specific activity (LSA) packages.

A package need not satisfy the requirements of § 71.51 if it contains only low specific activity material and is transported as exclusive use, but is subject to §§ 71.41–71.47 of this part, including § 71.43(f).

§ 71.53 Fissile material exemptions.

The following packages are exempt from fissile material classification and from the fissile material standards of §§ 71.55–71.61, but are subject to all other requirements of this part:

(a) A package containing not more than 15 grams of fissile radionuclides. If material is transported in bulk, the quantity limitation applies to the conveyance; or

(b) A package containing irradiated natural or depleted uranium including the products of irradiation if the irradiation has taken place only in a thermal reactor; or

(c) A package containing homogenous hydrogenous solutions or mixtures where:

(1) The minimum ratio of the number of hydrogen atoms to the number of atoms of fissile radionuclides(H/X) is 5200;

(2) The maximum concentration of fissile radionuclides is five grams/liter; and

(3) The maximum mass of fissile radionuclides in the package is 800 grams, except for a mixture where the total mass of plutonium and uranium-233 exceeds one percent of the mass of uranium-235 the limit is 500 grams. If the material is transported in bulk, the quantity limitations apply to the vehicle, to a hold or compartment of an inland waterway craft, or to a hold, compartment, or defined deck area of a seagoing vessel; or

(d) A package containing uranium enriched in uranium-235 to a maximum of one percent by weight, and with a total plutonium and uranium-233 content of up to one percent of the mass of uranium-235, if the fissile radionuclides are distributed homogeneously throughout the package contents, and do not form a lattice arrangement within the package; or

(e) A package containing any fissile material if it does not contain more than five grams of fissile radionuclides in any 10-liter volume, and if the material is packaged so as to maintain this limit of fissile radionuclide concentration during normal transport; or

48 FR 35600

(f) A package containing not more than one kilogram of plutonium of which not more than 20% by mass may consist of plutonium-239, plutonium-241, or any combination of those radionuclides; or

(g) A package containing liquid solutions of uranyl nitrate enriched in uranium-235 to a maximum of two percent by weight, with total plutonium and uranium-233 not more than one-tenth percent of the mass of uranium-235.

§ 71.55 General requirements for all fissile material packages.

(a) A package used for the shipment of fissile material must be designed and constructed in accordance with §§ 71.41–71.47. When required by the total amount of radioactive material, a package used for the shipment of fissile material must also be designed and constructed in accordance with § 71.51.

(b) Except as provided in paragraph (c) of this section, a package used for the shipment of fissile material must be so designed and constructed and its contents so limited that it would be subcritical if water were to leak into the containment system or liquid contents were to leak out of the containment system so that, under the following conditions, maximum reactivity of the fissile material would be attained:

(1) The most reactive credible configuration consistent with the chemical and physical form of the material;

(2) Moderation by water to the most reactive credible extent; and

(3) Close reflection by water on all sides.

(c) The Commission may approve exceptions to the requirements of paragraph (b) of this section if the package incorporates special design features that ensure that no single packaging error would permit leakage, and if appropriate measures are taken before each shipment to ensure the containment system does not leak.

(d) A package used for the shipment of fissile material must be so designed and constructed and its contents so limited that under the tests specified in § 71.71 (Normal Conditions of Transport):

(1) The contents would be subcritical;

(2) The geometric form of the package contents would not be substantially altered;

(3) There would be no leakage of water into the containment system unless, in the evaluation of undamaged packages under §§ 71.57(a), 71.59(b)(1), and 71.61(a), it has been assumed that moderation is present to such an extent as to cause maximum reactivity consistent with the chemical and physical form of the material; and

48 FR 35600

(4) There will be no substantial reduction in the effectiveness of the packaging, including:

(i) No more than five percent reduction in the total effective volume of the packaging on which nuclear safety is assessed;

(ii) No more than five percent reduction in the effective spacing between the fissile contents and the outer surface of the packaging; and

(iii) No occurrence of an aperture in the outer surface of the packaging large enough to permit the entry of a 10 cm (four in.) cube.

(e) A package used for the shipment of fissile material must be so designed and constructed and its contents so limited that under the tests specified in § 71.73 (Hypothetical Accident Conditions), the package would be subcritical. For this determination, it must be assumed that:

(1) The fissile material is in the most reactive credible configuration consistent with the damaged condition of the package and the chemical and physical form of the contents;

(2) Water moderation occurs to the most reactive credible extent consistent with the damaged condition of the package and the chemical and physical form of the contents; and

(3) There is reflection by water on all sides, as close as is consistent with the damaged condition of the package.

§ 71.57 Specific standards for a Fissile Class I package.

A Fissile Class I package must be so designed and constructed and its contents so limited that:

(a) Any number of undamaged packages would be subcritical in any arrangement and with optimum interspersed hydrogenous moderation unless there is a greater amount of interspersed moderation in the packaging, in which case the greater amount may be assumed for this determination; and

(b) Two hundred fifty (250) packages, if each package were subjected to the tests specified in § 71.73 (Hypothetical Accident Conditions), would be subcritical if stacked together in any arrangement, closely reflected on all sides of the stack by water, and with optimum interspersed hydrogenous moderation.

§ 71.59 Specific standards for a Fissile Class II package.

(a) A Fissile Class II package must be controlled by the carrier during transport. To provide this control, the designer of a Fissile Class II package must determine the allowable number of packages of that design which can be safely transported in a vehicle under the conditions specified in this section. This allowable number of packages determines the minimum transport index which the shipper of the package marks on the package label when the package is shipped. By limiting to 50 the total number of transport indexes in a vehicle or storage area, the carrier provides adequate criticality control.

48 FR 35600

(b) A Fissile Class II package must be designed and constructed and its contents so limited, and the allowable number of these packages in a Fissile Class II shipment so determined, that:

(1) Five times the allowable number of undamaged packages would be subcritical if stacked together in any arrangement and closely reflected on all sides of the stack by water; and

(2) Twice the allowable number of packages, if each package were subjected to the tests specified in § 71.73 (Hypothetical Accident Conditions), would be subcritical if stacked together in any arrangement, closely reflected on all sides of the stack by water, and with optimum interspersed hydrogenous moderation.

(c) The transport index with respect to criticality control for each Fissile Class II package must be calculated by dividing the number 50 by the allowable number of Fissile Class II packages which may be transported together as determined under the limitations of paragraph (b) of this section. The transport index so determined must not exceed 10 and must be rounded up to the first decimal place.

§ 71.61 Specific standards for a Fissile Class III shipment.

A package for Fissile Class III shipment must be so designed and constructed and its contents so limited, and the number of packages in a Fissile Class III shipment must be so limited, that:

(a) Twice this number of undamaged packages would be subcritical if stacked together in any arrangement, assuming close reflection on all sides of the stack by water; and

(b) This number of packages would be subcritical if stacked together in any arrangement, closely reflected on all sides of the stack by water, and with optimum interspersed hydrogenous moderation. Except as permitted under § 71.41, each package must be considered to have been subjected to the tests specified in § 71.73 (Hypothetical Accident Conditions).

§ 71.63 Special requirements for plutonium shipments.

(a) Plutonium in excess of 20 curies per package must be shipped as a solid.

(b) Plutonium in excess of 20 curies per package must be packaged in a separate inner container placed within outer packaging that meets the requirements of Subparts E and F for packaging of material in normal form. If the entire package is subjected to the tests specified in § 71.71 (Normal Conditions of Transport), the separate inner container must not release plutonium, as demonstrated to a sensitivity of 10^{-6} A_2 per hour. If the entire package is subjected to the tests specified in § 71.73 (Hypothetical Accident Conditions), the separate inner container must restrict the loss of plutonium to not more than A_2 in one week. Solid plutonium in the following forms is exempt from the requirements of this paragraph:

48 FR 35600

(1) Reactor fuel elements;

(2) Metal or metal alloy; and

(3) Other plutonium bearing solids that the Commission determines should be exempt from the requirements of this section.

§ 71.65 Additional requirements.

The Commission may, by rule, regulation, or order, impose requirements upon any licensee in addition to those established in this part as it deems necessary or appropriate to protect health or to minimize danger to life or property.

Subpart F—Package and Special Form Tests[2]

§ 71.71 Normal conditions of transport.

(a) *Evaluation.* Evaluation of each package design under normal conditions of transport must include a determination of the effect on that design of the conditions and tests specified in this section. Separate specimens may be used for the free drop test, the compression test, and the penetration test if each specimen is subjected to the water spray test before being subjected to any of the other tests.

(b) *Initial conditions.* With respect to the initial conditions for the tests in this section, the demonstration of compliance with the requirements of this Part must be based on the ambient temperature preceding and following the tests remaining constant at that value between −29°C (−20°F) and +38°C (100°F) which is most unfavorable for the feature under consideration. The initial internal pressure within the containment system must be considered to be the maximum normal operating pressure, unless a lower internal pressure consistent with the ambient temperature considered to precede and follow the tests is more unfavorable.

(c) *Conditions and tests.* (1) *Heat.* An ambient temperature of 38°C (100°F) in still air, and insolation according to the following table:

48 FR 35600

INSOLATION DATA

Form and location of surface	Total insolation for a 12-hour period (g cal/cm^2)
Flat surfaces transported horizontally:	
—Base	None.
—Other surfaces	800.
Flat surfaces not transported horizontally	200.
Curved surfaces	400.

(2) *Cold.* An ambient temperature of −40°C (−40°F) in still air and shade.

(3) *Reduced external pressure.* An external pressure of 24.5 kilopascal (3.5 psi) absolute.

(4) *Increased external pressure.* An external pressure of 140 kilopascal (20 psi) absolute.

(5) *Vibration.* Vibration normally incident to transport.

(6) *Water spray.* A water spray that simulates exposure to rainfall of approximately five cm (two in.) per hour for at least one hour.

(7) *Free drop.* Between 1½ and 2½ hours after the conclusion of the water spray test, a free drop through the distance specified below onto a flat, essentially unyielding, horizontal surface, striking the surface in a position for which maximum damage is expected. For Fissile Class II packages, this free drop must be preceded by a

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[2] The package standards related to the tests in this subpart are contained in Subpart E.

free drop from a height of 0.3 m (one ft.) on each corner or, in the case of a cylindrical Fissile Class II package, onto each of the quarters of each rim.

CRITERIA FOR FREE DROP TEST (WEIGHT/DISTANCE)

Package weight		Free drop distance	
Kilograms	Pounds	Meters	Feet
5,000 or less	(11,000)	1.2	(4)
5,000 to 10,000	(11,000 to 22,000)	0.9	(3)
10,000 to 15,000	(22,000 to 33,000)	0.6	(2)
More than 15,000	(More than 33,000)	0.3	(1)

(8) *Corner drop.* A free drop onto each corner of the package in succession, or in the case of a cylindrical package onto each quarter of each rim, from a height of 0.3 m (one ft.) onto a flat, essentially unyielding, horizontal surface. This test applies only to fiberboard or wood rectangular packages not exceeding 50 kg (110 pounds) and fiberboard or wood cylindrical packages not exceeding 100 kg (220 pounds).

(9) *Compression.* For packages weighing up to 5000 kg, the package must be subjected, for a period of 24 hours, to a compressive load applied uniformly to the top and bottom of the package in the position in which the package would normally be transported. The compressive load must be the greater of the following:

(i) The equivalent of five times the weight of the package; or

(ii) The equivalent of 12.75 kilopascal (1.85 lb/in^2) multiplied by the vertically projected area of the package.

(10) *Penetration.* Impact of the hemispherical end of a vertical steel cylinder of 3.2 cm (1¼ in) diameter and six kg (13 lb) mass, dropped from a height of one m (40 in) onto the exposed surface of the package which is expected to be most vulnerable to puncture. The long axis of the cylinder must be perpendicular to the package surface.

§ 71.73 Hypothetical accident conditions.

(a) *Test procedures.* Evaluation for hypothetical accident conditions is to be based on sequential application of the tests specified in this section, in the order indicated, to determine their cumulative effect on a package or array of packages. An undamaged specimen must be used for the water immersion test specified in paragraph (c)(5) of this section.

(b) *Test conditions.* With respect to the initial conditions for the tests, except for the water immersion tests, to demonstrate compliance with the requirements of this part during testing, the ambient air temperature before and after the tests must remain constant at that value between −29°C (−20°F) and +38°C (100°F) which is most unfavorable for the feature under consideration. The initial internal pressure within the containment system must be the maximum normal operating pressure unless a lower internal pressure consistent with the ambient temperature assumed to precede and follow the tests is more unfavorable.

(c) *Tests.* Tests for hypothetical accident conditions must be conducted as follows:

(1) *Free Drop.* A free drop of the specimen through a distance of nine m (30 ft) onto a flat, essentially unyielding, horizontal surface, striking the surface in a position for which maximum damage is expected.

(2) *Puncture.* A free drop of the specimen through a distance of one m (40 in) in a position for which maximum damage is expected, onto the upper end of a solid, vertical, cylindrical, mild steel bar mounted on an essentially unyielding, horizontal surface. The bar must be 15 cm (six in) in diameter, with the top horizontal and its edge rounded to a radius of not more than six mm (¼ in) and of a length as to cause maximum damage to the package, but not less than 20 cm (eight in) long. The long axis of the bar must be vertical.

(3) *Thermal.* Exposure of the whole specimen for not less than 30 minutes to a heat flux not less than that of a radiation environment of 800°C (1475°F) with an emissivity coefficient of at least 0.9. For purposes of calculation, the surface absorptivity must be either that value which the package may be expected to possess if exposed to a fire or 0.8, whichever is greater. In addition, when significant, convective heat input must be included on the basis of still, ambient air at 800°C (1475°F). Artificial cooling must not be applied after cessation of external heat input and any combustion of materials of construction must be allowed to proceed until it terminates naturally. The effects of solar radiation may be neglected prior to, during, and following the test.

(4) *Immersion—fissile material.* For fissile material, in those cases where water inleakage has not been assumed for criticality analysis, the specimen must be immersed under a head of water of at least 0.9 m (three ft) for a period of not less than eight hours and in the attitude for which maximum leakage is expected.

(5) *Immersion—all packages.* A separate, undamaged specimen must be **subjected to water pressure equivalent to immersion under a head of water of at least 15 m (50 ft) for a period of not less than eight hours. For test purposes, an external pressure of water of 147 kilopascal (21 psi) gauge is considered to meet these conditions.**

§ 71.75 Qualification of special form radioactive material.

(a) Evaluation of the contents of a single package for qualification as special form must include a determination of the effect on a specimen of those contents of the tests specified in § 71.77.

(1) Specimens (solid radioactive material or capsules) to be tested must be as normally prepared for loading in a single package, with the radioactive material duplicated as closely as practicable.

(2) A different specimen may be used for each of the tests.

(b) The specimen must not break or shatter when subjected to the impact, percussion, or bending tests.

(c) The specimen must not melt or disperse when subjected to the heat test.

(d) After each test, leak-tightness or indispersibility of the specimen must be determined by a method no less sensitive than the following leaching assessment procedure. For a capsule resistant to corrosion by water, and which has an internal void volume greater than 0.1 milliliters, an alternative to the leaching assessment is a demonstration of leak-tightness of 10^{-4} torr-l/s (1.3×10^{-4} atm cm^3/s) (based on air at 25°C and one atmosphere differential pressure) for solid radioactive content, or 10^{-6} torr-l/s (1.3×10^{-6} atm cm^3/s) for liquid or gaseous radioactive content.

(1) The specimen must be immersed for seven days in water at ambient temperature. The water must have a pH of 6–8 and a maximum conductivity of 10 μmho/cm at 20°C (68°F). Encapsulated material is not subject to the seven-day requirement.

(2) The water with specimen must then be heated to a temperature of 50°±5°C (122°±9°F) and maintained at this temperature for four hours.

(3) The activity of the water must be determined at that time.

(4) The specimen must then be stored for at least seven days in still air of humidity not less than 90% and a temperature not less than 30°C (86°F).

(5) The specimen must then be immersed in water having a pH of 6–8 and a maximum conductivity of 10 μmho/cm at 20°C, and the water with specimen heated to 50°±5°C (122°±9°F) and maintained at this temperature for four hours.

(6) The activity of the water must be determined at that time.

(7) The activities determined in paragraphs (c)(3) and (c)(6) of this section must not exceed 0.05 μCi.

§ 71.77 Tests for special form radioactive material.

(a) *Impact test.* The specimen must fall onto a flat, horizontal, essentially unyielding surface from a height of not less than nine m (30 ft).

(b) *Percussion test.* The specimen must be placed on a sheet of lead which is supported by a smooth solid surface and struck by the flat face of a steel billet so as to produce an impact equivalent to that resulting from a free fall of 1.4 kg (three lb.) through one m (40 in.). The flat face of the billet must be 25 mm (one in.) in diameter with the edges rounded to a radius of three mm (0.12 in.)±0.3 mm (0.012 in.). The lead, of hardness number 3.5 to 4.5 on the Vickers scale and not more than 25 mm (one in.) thick, must cover an area greater than that covered by the specimen. A fresh surface of lead must be used for each impact. The billet must strike the specimen so as to cause maximum damage.

48 FR 35600

(c) *Bending test.* The test is applicable only to long, slender sources with both a minimum length of 10 cm (four in.) and a length to minimum width ratio not less than 10. The specimen must be rigidly clamped in a horizontal position so that one-half of its length protrudes from the face of the clamp. The orientation of the specimen must be such that the specimen will suffer maximum damage when its free end is struck by the flat face of a steel billet. The billet must strike the specimen so as to produce an impact equivalent to that resulting from a free vertical fall of 1.4 kg (three lb.) through one m (40 in.). The flat face of the billet must be 25 mm (one in.) in diameter with the edges rounded off to a radius of three mm (0.12 in.)±0.3 mm (0.012 in.).

48 FR 38449

(d) *Heat test.* The specimen must be heated to a temperature of not less than 800°C (1475°F) in an atmosphere which is essentially air, and held at that temperature for a period of 10 minutes and must then be allowed to cool.

Subpart G—Operating Controls and Procedures

§ 71.81 Applicability of operating controls and procedures.

A licensee subject to this part, who under a general or specific license transports licensed material or delivers licensed material to a carrier for transport, shall comply with the requirements of this Subpart G, with the quality assurance requirements of Subpart H of this part, and with the general provisions of Subpart A of this part.

§ 71.83 Assumptions as to unknown properties.

When the isotopic abundance, mass, concentration, degree of irradiation, degree of moderation, or other pertinent property of fissile material in any package is not known, the licensee shall package the fissile material as if the unknown properties have credible values that will cause the maximum nuclear reactivity.

§ 71.85 Preliminary determinations.

Prior to the first use of any packaging for the shipment of licensed material:

(a) The licensee shall ascertain that there are no cracks, pinholes, uncontrolled voids, or other defects which could significantly reduce the effectiveness of the packaging;

(b) Where the maximum normal operating pressure will exceed 34.3 kilopascal (5 psi) gauge, the licensee shall test the containment system at an internal pressure at least 50% higher than the maximum normal operating pressure to verify the capability of that system to maintain its structural integrity at that pressure.

(c) The licensee shall conspicuously and durably mark the packaging with its model number, gross weight, and a package identification number assigned by the Nuclear Regulatory Commission. Prior to applying the model number, the licensee shall determine that the packaging has been fabricated in accordance with the design approved by the Commission.

48 FR 35600

§ 71.87 Routine determinations.

Prior to each shipment of licensed material, the licensee shall ensure that the package with its contents satisfies the applicable requirements of this part and of the license. The licensee shall determine that:

(a) The package is proper for the contents to be shipped;

(b) The package is in unimpaired physical condition except for superficial defects such as marks or dents;

(c) Each closure device of the packaging, including any required gasket, is properly installed and secured and free of defects;

(d) Any system for containing liquid is adequately sealed and has adequate space or other specified provision for expansion of the liquid;

(e) Any pressure relief device is operable and set in accordance with written procedures;

(f) The package has been loaded and closed in accordance with written procedures;

(g) For fissile material, any moderator or neutron absorber, if required, is present and in proper condition;

(h) Any structural part of the package which could be used to lift or tie down the package during transport is rendered inoperable for that purpose unless it satisfies the design requirements of § 71.45;

48 FR 35600

(i)(1) The level of non-fixed (removable) radioactive contamination on the external surfaces of each package offered for shipment is as low as reasonably achievable. The level of non-fixed radioactive contamination may be determined by wiping an area of 300 square centimeters of the surface concerned with an absorbent material, using moderate pressure, and measuring the activity on the wiping material. Sufficient measurements must be taken in the most appropriate locations to yield a representative assessment of the non-fixed contamination levels. Except as provided under paragraph (i)(2) of this section, the amount of radioactivity measured on any single wiping material when averaged over the surface wiped, must not exceed the limits given in Table V of this part at any time during transport. Other methods of assessment of equal or greater efficiency may be used. When other methods are used, the detection efficiency of the method used must be taken into account and in no case may the non-fixed contamination on the external surfaces of the package exceed ten times the limits listed in Table V.

48 FR 38449

TABLE V.—REMOVABLE EXTERNAL RADIOACTIVE CONTAMINATION WIPE LIMITS

Contaminant	Maximum permissible limits	
	μCi/cm^2	dpm/cm^2
Beta-gamma emitting radionuclides; all radionuclides with half-lives less than ten days, natural uranium; natural thorium; uranium-235, uranium-238; thorium-232; thorium-228 and thorium-230 when contained in ores or physical concentrates	10^{-5}	22
All other alpha emitting radionuclides	10^{-6}	2.2

(2) In the case of packages transported as exclusive use shipments by rail or highway only, the non-fixed radioactive contamination at any time during transport must not exceed ten times the levels prescribed in paragraph (i)(1) of this section. The levels at the beginning of transport must not exceed the levels prescribed in paragraph (i)(1) of this section;

(j) External radiation levels around the package and around the vehicle, if applicable, will not exceed the limits specified in § 71.47 at any time during transportation; and

(k) Accessible package surface

48 FR 35600

temperatures will not exceed the limits specified in § 71.43(g) at any time during transportation.

§ 71.88 Air transport of plutonium.

(a) Notwithstanding the provisions of any general licenses and notwithstanding any exemptions stated directly in this part or included indirectly by citation of 49 CFR Chapter 1, as may be applicable, the licensee shall assure that plutonium in any form, whether for import, export, or domestic shipment, is not transported by air or delivered to a carrier for air transport unless:

(1) The plutonium is contained in a medical device designed for individual human application; or

(2) The plutonium is contained in a material in which the specific activity is not greater than 0.002 microcuries per gram of material and in which the radioactivity is essentially uniformly distributed; or

(3) The plutonium is shipped in a single package containing no more than an A_2 quantity of plutonium in any isotope or form and is shipped in accordance with § 71.5 of this part; or

(4) The plutonium is shipped in a package specifically authorized for the shipment of plutonium by air in the Certificate of Compliance for that package issued by the Commission.

48 FR 35600

(b) Nothing in paragraph (a) of this section is to be interpreted as removing or diminishing the requirements of § 73.24 of this chapter.

(c) There have been two orders issued by the NRC restricting the air shipment of plutonium in accordance with Pub. L. 94–79. The first order, issued on August 15, 1975 was superseded by the second order dated September 1, 1978, which has remained in effect since that time. As of the effective date of this rule, the outstanding order dated September 1, 1978 is revoked.

§ 71.89 Opening instructions.

Prior to delivery of a package to a carrier for transport, the licensee shall ensure that any special instructions needed to safely open the package have been sent to or otherwise made available to the consignee for the consignee's use in accordance with § 20.205 of this chapter.

§ 71.91 Records.

(a) Each licensee shall maintain for a period of two years after shipment a record of each shipment of licensed material not exempt under § 71.10, showing, where applicable:

(1) Identification of the packaging by model number;

(2) Verification that there are no significant defects in the packaging, as shipped;

(3) Volume and identification of coolant;

(4) Type and quantity of licensed material in each package, and the total quantity of each shipment;

(5) For each item of irradiated fissile material:

(i) Identification by model number and/or serial number;

(ii) Irradiation and decay history to the extent appropriate to demonstrate that its nuclear and thermal characteristics comply with license conditions; and

(iii) Any abnormal or unusual condition relevant to radiation safety.

(6) Date of the shipment;

(7) For Fissile Class III and for Type B packages, any special controls exercised;

(8) Name and address of the transferee;

(9) Address to which the shipment was made; and

(10) Results of the determinations required by § 71.87.

48 FR 35600

(b) The licensee shall make available to the Commission for inspection, upon reasonable notice, all records required by this part.

(c) The licensee shall maintain, during the life of the packaging to which they pertain, sufficient quality assurance records to furnish documentary evidence of the quality of packaging components which have safety significance and of services affecting quality. The records to be maintained include results of the determinations required by § 71.85, of monitoring, inspection, and auditing of work performance during the design, fabrication, assembly, testing, modification, maintenance, and repair of the packaging.

§ 71.93 Inspection and tests.

(a) The licensee shall permit the Commission at all reasonable times to inspect the licensed material, packaging, premises, and facilities in which the licensed material or packaging is used, produced, tested, stored, or shipped.

(b) The licensee shall perform, and permit the Commission to perform, tests as the Commission deems necessary or appropriate for the administration of the regulations in this chapter.

(c) The licensee shall notify the Director of the appropriate Nuclear Regulatory Commission Regional Office listed in Appendix A of Part 73 of this chapter at least 45 days prior to fabrication of a package to be used for the shipment of licensed material having a decay heat load in excess of five kilowatts or with a maximum normal operating pressure in excess of 103 kilopascal (15psi) gauge.

§ 71.95 Reports.

The licensee shall report to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, within 30 days:

(a) Any instance in which there is significant reduction in the effectiveness of any authorized packaging during use; and

(b) Details of any defects with safety significance in the packaging after first use, with the means employed to repair the defects and prevent their recurrence.

§ 71.97 Advance notification of shipment of nuclear waste.

(a) Except as specified in paragraph (b) of this section, prior to the transport or delivery to a carrier for transport of licensed material outside the confines of the licensee's plant or other place of use or storage, each licensee shall provide advance notification to the governor of a state, or the governor's designee, of the shipment to, through, or across the boundry of the state.

48 FR 35600

(b) Advance notification is required only when—

(1) The licensed material is required by this part to be in Type B packaging for transportation;

(2) The licensed material other than irradiated fuel is being transported to, through, or across state boundaries to a disposal site or to a collection point for transport to a disposal site;

(3) The quantity of licensed material in a single package exceeds:

(i) 5,000 curies of special form radionuclides;

(ii) 5,000 curies of uncompressed gases of Argon–41, Krypton–85m, Krypton–87, Xenon–131m, or Xenon–135;

(iii) 50,000 curies of Argon–37, or of uncompressed gases of Krypton–85 or Xenon–133, or of Hydrogen–3 as a gas, as luminous paint, or adsorbed on solid material;

(iv) 20 curies of other non-special form radionuclides for which A_2 is less than or equal to four curies; or

(v) 200 curies of other non-special form radionuclides for which A_2 is greater than four curies; and

(4) The quantity of irradiated fuel is less than that subject to advance notification requirements of 10 CFR Part 73.

(c) *Procedures for submitting advance notification.* (1) The notification must be made in writing to the office of each appropriate governor or governor's designee and to the Director of the appropriate Nuclear Regulatory Commission Regional Office listed in Appendix A of Part 73 of this chapter.

(2) A notification delivered by mail must be postmarked at least seven days before the beginning of the seven-day period during which departure of the shipment is estimated to occur.

(3) A notification delivered by messenger must reach the office of the governor or of the governor's designee at least four days before the beginning of the seven-day period during which departure of the shipment is estimated to occur.

(i) A list of the names and mailing addresses of the governors' designees receiving advance notification of transportation of nuclear waste was published in the Federal Register on June 30, 1983 (48 FR 30221).

(ii) The list will be published annually in the Federal Register on or about June 30 to reflect any changes in information.

(iii) A list of the names and mailing addresses of the governors' designees is available upon request from the Director, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(4) The licensee shall retain a copy of the notification as a record for one year.

48 FR 35600

(d) *Information to be furnished in advance notification of shipment.* Each advance notification of shipment of nuclear waste must contain the following information:

(1) The name, address, and telephone number of the shipper, carrier, and receiver of the nuclear waste shipment;

(2) A description of the nuclear waste contained in the shipment, as required by the regulations of DOT in 49 CFR 172.202 and 172.203(d);

(3) The point of origin of the shipment and the seven-day period during which departure of the shipment is estimated to occur;

(4) The seven-day period during which arrival of the shipment at state boundaries is estimated to occur;

(5) The destination of the shipment, and the seven-day period during which arrival of the shipment is estimated to occur; and

(6) A point of contact with a telephone number for current shipment information.

(e) *Revision notice.* A licensee who finds that schedule information previously furnished to a governor or governor's designee in accordance with this section will not be met, shall telephone a responsible individual in the office of the governor of the state or of the governor's designee and inform that individual of the extent of the delay beyond the schedule originally reported. The licensee shall maintain a record of the name of the individual contacted for one year.

(f) *Cancellation notice.* (1) Each licensee who cancels a nuclear waste shipment for which advance notification has been sent, shall send a cancellation notice to the governor of each state or the governor's designee previously notified and to the Director of the appropriate Nuclear Regulatory Commission Regional Office listed in Appendix A of Part 73 of this chapter.

(2) The licensee shall state in the notice that it is a cancellation and shall identify the advance notification which is being cancelled. The licensee shall retain a copy of the notice as a record for one year.

§71.99 Violations.

48 FR 35600

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, (the Act) or Title II of the Energy Reorganization Act of 1974, as amended, or any regulation or order issued under the Acts. A court order may be obtained for the payment of a civil penalty imposed under section 234 of the Act for violation of sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, as amended; or any rule, regulation, or order issued under the Acts, or any term, condition, or limitation of any license issued under the Acts, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued under the Acts may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

Subpart H—Quality Assurance

§71.101 Quality assurance requirements.

(a) *Purpose.* This subpart describes quality assurance requirements applying to design, purchase, fabrication, handling, shipping, storing, cleaning, assembly, inspection, testing, operation, maintenance, repair, and modification of components of packaging which are important to safety. As used in this subpart, "quality assurance" comprises all those planned and systematic actions necessary to provide adequate confidence that a system or component will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to control of the physical characteristics and quality of the material or component to predetermined requirements.

(b) *Establishment of program.* Each licensee shall establish, maintain, and execute a quality assurance program satisfying each of the applicable criteria of this subpart, and satisfying any specific provisions which are applicable to the licensee's activities including procurement of packaging. The licensee shall apply the applicable criteria in a graded approach, and to an extent that is consistent with their importance to safety.

(c) *Approval of program.* Prior to the use of any package for the shipment of licensed material subject to this subpart, each licensee shall obtain Commission approval of its quality assurance program. Each licensee shall file a description of its quality assurance program, including a discussion of which requirements of this subpart are applicable and how they will be satisfied, with the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

48 FR 35600

(d) *Existing package designs.* The provisions of this paragraph deal with packages which have been approved for use in accordance with this part prior to January 1, 1979, and which have been designed in accordance with the provisions of this part in effect at the time of application for package approval. Those packages will be accepted as having been designed in accordance with a quality assurance program which satisfies the provisions of paragraph (b) of this section.

(e) *Existing packages.* The provisions of this paragraph deal with packages which have been approved for use in accordance with this part prior to January 1, 1979, have been at least partially fabricated prior to that date, and for which the fabrication is in accordance with the provisions of this part in effect at the time of application for approval of package design. These packages will be accepted as having been fabricated and assembled in accordance with a quality assurance program which satisfies the provisions of paragraph (b) of this section.

(f) *Previously approved programs.* A Commission-approved quality assurance program which satisfies the applicable criteria of Appendix B of Part 50 of this chapter and which is established, maintained, and executed with regard to transport packages will be accepted as satisfying the requirements of paragraph (b) of this section. Prior to first use, the licensee shall notify the Director, Office of Nuclear Material Safety and

Safeguards, U.S. Nuclear Regulatory Commisson, Washington, DC 20555, of its intent to apply its previously approved Appendix B program to transportation activities. The licensee shall identify the program by date of submittal to the Commission, Docket Number, and date of Commission approval.

§ 71.103 Quality assurance organization.

The licensee[3] shall be responsible for the establishment and execution of the quality assurance program. The licensee may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, or any part of the quality assurance program, but shall retain responsibility for the program. The licensee shall clearly establish and delineate in writing the authority and duties of persons and organizations performing activities affecting the safety-related functions of structures, systems and components. These activities include performing the functions associated with attaining quality objectives and the quality assurance functions. The quality assurance functions are (a) assuring that an appropriate quality assurance program is established and effectively executed and (b) verifying, by procedures such as checking, auditing, and inspection, that activities affecting the safety-related functions have been correctly performed. The persons and organizations performing quality assurance functions must have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions. The persons and organizations performing quality assurance functions shall report to a management level which assures that the required authority and organizational freedom, including sufficient independence from cost and schedule when opposed to safety considerations, are provided. Because of the many variables involved, such as the number of personnel, the type of activity being performed, and the location or locations where activities are performed, the organizational structure for executing the quality assurance program may take various forms provided that the persons and organizations assigned the quality assurance functions have the required authority and organizational freedom. Irrespective of the organizational structure, the individual(s) assigned the responsibility for assuring effective execution of any portion of the quality assurance program at any location where activities subject to this section are being performed must have direct access to the levels of management necessary to perform this function.

48 FR 35600

§ 71.105 Quality assurance program.

(a) The licensee shall establish, at the earliest practicable time consistent with the schedule for accomplishing the activities, a quality assurance program which complies with the requirements of this section. The licensee shall document the quality assurance program by written procedures or instructions and shall carry out the program in accordance with those procedures throughout the period during which packaging is used. The licensee shall identify the material and components to be covered by the quality assurance program, the major organizations participating in the program, and the designated functions of these organizations.

(b) The licensee, through its quality assurance program, shall provide control over activities affecting the quality of the identified materials and components to an extent consistent with their importance to safety, and as necessary to assure conformance to the approved design of each individual package used for the shipment of radioactive material. The licensee shall assure that activities affecting quality are accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. The licensee shall take into account the need for special controls, processes, test equipment, tools and skills to attain the required quality, and the need for verification of quality by inspection and test.

48 FR 35600

(c) The licensee shall base the requirements and procedures of its quality assurance program on the following considerations concerning the complexity and proposed use of the package and its components:

(1) The impact of malfunction or failure of the item to safety;

(2) The design and fabrication complexity or uniqueness of the item;

(3) The need for special controls and surveillance over processes and equipment;

(4) The degree to which functional compliance can be demonstrated by inspection or test; and

(5) The quality history and degree of standardization of the item.

(d) The licensee shall provide for indoctrination and training of personnel performing activites affecting quality as necessary to assure that suitable proficiency is achieved and maintained. The licensee shall review the status and adequacy of the quality assurance program at established intervals. Management of other organizations participating in the quality assurance program shall regularly review the status and adequacy of that part of the quality assurance program which they are executing.

§ 71.107 Package design control.

(a) The licensee shall establish measures to assure that applicable regulatory requirements and the package design, as specified in the license for those materials and components to which this section applies, are correctly translated into specifications, drawings, procedures, and instructions. These measures must include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from standards are controlled. Measures must be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the materials, parts, and components of the packaging.

48 FR 35600

(b) The licensee shall establish measures for the identification and control of design interfaces and for coordination among participating design organizations. These measures must include the establishment of written procedures among participating design organizations for the review, approval, release, distribution, and revision of documents involving design interfaces. The design control measures must provide for verifying or checking the adequacy of design, by methods such as design reviews, alternate or simplified calculational methods, or by a suitable testing program. For the verifying or checking process, the licensee shall designate individuals or groups other than those who were responsible for the original design, but who may be from the same organization. Where a test program is used to verify the adequacy of a specific design feature in lieu of other verifying or checking processes, the licensee shall include suitable qualification testing of a prototype or sample unit under the most adverse design conditions. The licensee shall

48 FR 38449

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[3] While the term "licensee" is used in these criteria, the requirements are applicable to whatever design, fabrication, assembly, and testing of the package is accomplished with respect to a package prior to the time a package approval is issued.

48 FR 38449

apply design control measures to items such as the following: criticality physics, radiation shielding, stress, thermal, hydraulic, and accident analyses; compatibility of materials; accessibility for inservice inspection, maintenance, and repair; features to facilitate decontamination; and delineation of acceptance criteria for inspections tests.

48 FR 35600

(c) The licensee shall subject design changes, including field changes, to design control measures commensurate with those applied to the original design. Changes in the conditions specified in the package approval require NRC approval.

§ 71.109 Procurement document control.

The licensee shall establish measures to assure adequate quality is required in the documents for procurement of material, equipment, and services, whether purchased by the licensee or by its contractors or subcontractors. To the extent necessary, the licensee shall require contractors or subcontractors to provide a quality assurance program consistent with the applicable provisions of this part.

§ 71.111 Instructions, procedures, and drawings.

The licensee shall prescribe activities affecting quality by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall require that these instructions, procedures, and drawings be followed. The instructions, procedures, and drawings must include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

§ 71.113 Document control.

The licensee shall establish measures to control the issuance of documents such as instructions, procedures, and drawings, including changes, which prescribe all activities affecting quality. These measures must assure that documents, including changes, are reviewed for adequacy, approved for release by authorized personnel, and distributed and used at the location where the prescribed activity is performed. These measures must assure that changes to documents are reviewed and approved.

§ 71.115 Control of purchased material, equipment, and services.

(a) The licensee shall establish measures to assure that purchased material, equipment, and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents. These measures must include provisions, as appropriate, for source evaluation and selection, objective evidence of quality furnished by the contractor or subcontractor, inspection at the contractor or subcontractor source, and examination of products upon delivery.

(b) The licensee shall have available documentary evidence that material and equipment conform to the procurement specifications prior to installation or use of the material and equipment. The licensee shall retain or have available this documentary evidence for the life of the package to which it applies. The licensee shall assure that the evidence is sufficient to identify the specific requirements met by the purchased material and equipment.

(c) The licensee or designee shall assess the effectiveness of the control of quality by contractors and subcontractors at intervals consistent with the importance, complexity, and quantity of the product or services.

§ 71.117 Identification and control of materials, parts, and components.

The licensee shall establish measures for the identification and control of materials, parts, and components. These measures must assure that identification of the item is maintained by heat number, part number, or other appropriate means, either on the item or on records traceable to the item, as required throughout fabrication, installation, and use of the item. These identification and control measures must be designed to prevent the use of incorrect or defective materials, parts, and components.

48 FR 35600

§ 71.119 Control of special processes.

The licensee shall establish measures to assure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria, and other special requirements.

§ 71.121 Internal inspection.

The licensee shall establish and execute a program for inspection of activities affecting quality by or for the organization performing the activity to verify conformance with the documented instructions, procedures, and drawings for accomplishing the activity. The inspection must be performed by individuals other than those who performed the activity being inspected. Examination, measurements, or tests of material or products processed must be performed for each work operation where necessary to assure quality. If direct inspection of processed material or products is not carried out, indirect control by monitoring processing methods, equipment, and personnel must be provided. Both inspection and process monitoring must be provided when quality control is inadequate without both. If mandatory inspection hold points, which require witnessing or inspecting by the licensee's designated representative and beyond which work should not proceed without the consent of its designated representative, are required, the specific hold points must be indicated in appropriate documents.

§ 71.123 Test control.

The licensee shall establish a test program to assure that all testing required to demonstrate that the packaging components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements of this part and the requirements and acceptance limits contained in the package approval. The test procedures must include provisions for assuring that all prerequisites for the given test are met, that adequate test instrumentation is available and used, and that the test is performed under suitable environmental conditions. The licensee shall document and evaluate the test results to assure that test requirements have been satisfied.

48 FR 35600

§ 71.125 Control of measuring and test equipment.

The licensee shall establish measures to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified times to maintain accuracy within necessary limits.

§ 71.127 Handling, storage, and shipping control.

The licensee shall establish measures to control, in accordance with instructions, the handling, storage, shipping, cleaning, and preservation of materials and equipment to be used in packaging to prevent damage or deterioration. When necessary for particular products, special protective environments, such as inert gas atmosphere, and specific moisture content and temperature levels must be specified and provided.

§ 71.129 Inspection, test, and operating status.

(a) The licensee shall establish measures to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the packaging. These measures must provide for the identification of items which have satisfactorily passed required inspections and tests where necessary to preclude inadvertent bypassing of the inspections and tests.

(b) The licensee shall establish measures to identify the operating status of components of the packaging, such as tagging valves and switches, to prevent inadvertent operation.

§ 71.131 Nonconforming materials, parts, or components.

The licensee shall establish measures to control materials, parts, or components which do not conform to the licensee's requirements in order to prevent their inadvertent use or installation. These measures must include, as appropriate, procedures for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items must be reviewed and accepted, rejected, repaired, or reworked in accordance with documented procedures.

48 FR 35600

§ 71.133 Corrective action.

The licensee shall establish measures to assure that conditions adverse to quality, such as deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of a significant condition adverse to quality, the measures must assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken must be documented and reported to appropriate levels of management.

§ 71.135 Quality assurance records.

(a) The licensee shall maintain sufficient written records to furnish evidence of activities affecting quality. The records must include the following: design records, records of use and the results of reviews, inspections, tests, audits, monitoring of work performance, and materials analyses. The records must include closely related data such as qualifications of personnel, procedures, and equipment. Inspection and test records must, at a minimum, identify the inspector or data recorder, the type of observation, the results, the acceptability, and the action taken in connection with any deficiencies noted. Records must be identifiable and retrievable. Records pertaining to the fabrication of the package must be retained for the life of the package to which they apply. Records pertaining to the use of the package for shipment of radioactive material must be retained for a period of two years after the shipment.

(b) The licensee shall establish a records retention program which is consistent with the applicable regulations, designating factors such as duration, location, and assigned responsibility.

48 FR 35600

§ 71.137 Audits.

The licensee shall carry out a comprehensive system of planned and periodic audits to verify compliance with all aspects of the quality assurance program and to determine the effectiveness of the program. The audits must be performed in accordance with written procedures or checklists by appropriately trained personnel not having direct responsibilities in the areas being audited. Audited results must be documented and reviewed by management having responsibility in the area audited. Follow-up action, including re-audit of deficient areas, must be taken where indicated.

Appendix A—Determination of A_1 and A_2

I. Single radionuclides.

48 FR 38449

(1) For a single radionuclide of known identity, the values of A_1 and A_2 are taken from Table A–1 if listed there. The values A_1 and A_2 in Table A–1 are also applicable for radionuclides contained in (α, n) or (γ, n) neutron sources.

48 FR 35600

(2) For any single radionuclide whose identity is known but which is not listed in Table A–1, the values of A_1 and A_2 are determined according to the following procedure:

(a) If the radionuclide emits only one type of radiation, A_1 is determined according to the rules in paragraphs (i), (ii), (iii) and (iv) of this paragraph. For radionuclides emitting different kinds of radiation, A_1 is the most restrictive value of those determined for each kind of radiation. However, in both cases, A_1 is restricted to a maximum of 1000 Ci. If a parent nuclide decays into a shorter lived daughter with a half-life not greater than 10 days, A_1 is calculated for both the parent and the daughter, and the more limiting of the two values is assigned to the parent nuclide.

(i) For gamma emitters, A_1 is determined by the expression:

$$A_1 = \frac{9}{\Gamma} \text{ curies}$$

where Γ is the gamma-ray constant, corresponding to the dose in R/h at 1 m per Ci; the number 9 results from the choice of 1 rem/h at a distance of 3 m as the reference dose-equivalent rate.

(ii) For X-ray emitters, A_1 is determined by the atomic number of the nuclide:

for $Z < 55$—$A_1 = 1000$ Ci
for $Z > 55$—$A_1 = 200$ Ci

where Z is the atomic number of the nuclide.

(iii) For beta emitters, A_1 is determined by the maximum beta energy (E_{max}) according to Table A–2;

(iv) For alpha emitters, A_1 is determined by the expression:

$A_1 = 1000\ A_3$

where A_3 is the value listed in Table A–3;

(b) A_2 is the more restrictive of the following two values:

(i) The corresponding A_1; and

(ii) The value A_3 obtained from Table A–3.

(3) For any single radionuclide whose identity is unknown, the value of A_1 is taken to be two Ci and the value of A_2 is taken to be 0.002 Ci. However, if the atomic number of the radionuclide is known to be less than 82, the value of A_1 is taken to be 10 Ci and the value of A_2 is taken to be 0.4 Ci.

II. Mixtures of radionculides, including radioactive decay chains.

48 FR 35600

(1) For mixed fission products the following activity limits may be assumed if a detailed analysis of the mixture is not carried out:

$A_1 = 10$ Ci
$A_2 = 0.4$ Ci

(2) A single radioactive decay chain is considered to be a single radionuclide when the radionuclides are present in their naturally occurring proportions and no daughter nuclide has a half-life either longer than 10 days or longer than that of the parent nuclide. The activity to be taken into account and the A_1 or A_2 value from Table A–1 to be applied are those corresponding to the parent nuclide of that chain. When calculating A_1 or A_2 values, radiation emitted by daughters must be considered. However, in the case of radioactive decay chains in which any daughter nuclide has a half-life either longer than 10 days or greater than that of the parent nuclide, the parent and daughter nuclides are considered to be mixtures of different nuclides.

(3) In the case of a mixture of different radionuclides, where the identity and activity of each radionuclide are known, the permissible activity of each radionuclide $R_1, R_2 \ldots R_n$ is such that $F_1 + F_2 + \ldots F_n$ is not greater than unity, where

$$F_1 = \frac{\text{Total activity of } R_1}{A_i(R_1)}$$

$$F_2 = \frac{\text{Total activity of } R_2}{A_i(R_2)}$$

$$F_n = \frac{\text{Total activity of } R_n}{A_i(R_n)}$$

$A_i(R_1, R_2 \ldots R_n)$ is the value of A_1 or A_2 as appropriate for the nuclide $R_1, R_2 \ldots R_n$.

(4) When the identity of each radionuclide is known but the individual activities of some of the radionuclides are not known, the formula given in paragraph (3) is applied to establish the values of A_1 or A_2 as appropriate. All the radionuclides whose individual activities are not known (their total activity will, however, be known) are classed in a single group and the most restrictive value of A_1 and A_2 applicable to any one of them is used as the value of A_1 or A_2 in the denominator of the fraction.

48 FR 35600

(5) Where the identity of each radionuclide is known but the individual activity of none of the radionuclides is known, the most restrictive value of A_1 or A_2 applicable to any one of the radionuclides present is adopted as the applicable value.

48FR38449

(6) When the identity of none of the nuclides is known, the value of A_1 is taken to be two Ci and the value of A_2 is taken to be 0.002 Ci. However, if alpha emitters are known to be absent, the value of A_2 is taken to be 0.4 Ci.

48FR35600

TABLE A-1.—A_1 AND A_2 VALUES FOR RADIONUCLIDES

(See footnotes at end of table)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
227_{Ac}	Actinium (89)	1000	0.003	7.2×10
228_{Ac}		10	4	2.2×10^6
105_{Ag}	Silver (47)	40	40	3.1×10^4
$110m_{Ag}$		7	7	4.7×10^3
111_{Ag}		100	20	1.6×10^5
241_{Am}	Americium (95)	8	0.008	3.2
243_{Am}		8	0.008	1.9×10^{-1}
37_{Ar} (compressed or uncompressed)*	Argon (18)	1000	1000	1.0×10^5
41_{Ar} (uncompressed)*		20	20	4.3×10^7
41_{Ar} (compressed)*		1	1	4.3×10^7
73_{As}	Arsenic (33)	1000	400	2.4×10^4
74_{As}		20	20	1.0×10^5
76_{As}		10	10	1.6×10^6
77_{As}		300	20	1.1×10^6
211_{At}	Astatine (85)	200	7	2.1×10^6
193_{Au}	Gold (79)	200	200	9.3×10^5
196_{Au}		30	30	1.2×10^5
198_{Au}		40	20	2.5×10^5
199_{Au}		200	25	2.1×10^5
131_{Ba}	Barium (56)	40	40	8.7×10^4
133_{Ba}		40	10	4.0×10^2
140_{Ba}		20	20	7.3×10^4
7_{Be}	Beryllium (4)	300	300	3.5×10^5
206_{Bi}	Bismuth (83)	5	5	9.9×10^4
207_{Bi}		10	25	2.2×10^3
210_{Bi} (RaE)		100	4	1.2×10^5
212_{Bi}		6	6	1.5×10^7
249_{Bk}	Berkelium (97)	1000	1	1.8×10^3
77_{Br}	Bromine (35)	70	25	7.1×10^5

48 FR 38449

TABLE A-1.—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of table)

48 FR 38449

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
82_{Br}		6	6	1.1×10^6
11_C	Carbon (6)	20	20	8.4×10^8
14_C		1000	60	4.6
45_{Ca}	Calcium (20)	1000	25	1.9×10^4
47_{Ca}		20	20	5.9×10^5
109_{Cd}	Cadmium (48)	1000	70	2.6×10^3
$115m_{Cd}$		30	30	2.8×10^4
115_{Cd}		80	20	5.1×10^5
139_{Ce}	Cerium (58)	100	100	6.5×10^3
141_{Ce}		300	25	2.8×10^4
143_{Ce}		60	20	6.6×10^5
144_{Ce}		10	7	3.2×10^3
249_{Cf}	Californium (98)	2	0.002	3.1
250_{Cf}		7	0.007	1.3×10^2
252_{Cf}		2	0.009	6.5×10^2
36_{Cl}	Chlorine (17)	300	10	3.2×10^{-2}
38_{Cl}		10	10	1.3×10^8
242_{Cm}	Curium (96)	200	0.2	3.3×10^3
243_{Cm}		9	0.009	4.2×10
244_{Cm}		10	0.01	8.2×10
245_{Cm}		6	0.006	1.0×10^{-1}
246_{Cm}		6	0.006	3.6×10^{-1}
56_{Co}	Cobalt (27)	5	5	3.0×10^4
57_{Co}		90	90	8.5×10^3
$58m_{Co}$		1000	1000	5.9×10^6
58_{Co}		20	20	3.1×10^4
60_{Co}		7	7	1.1×10^3
51_{Cr}	Chromium (24)	600	600	9.2×10^4
129_{Cs}	Cesium (55)	40	40	7.6×10^5
131_{Cs}		1000	1000	1.0×10^5
$134m_{Cs}$		1000	10	7.4×10^6
134_{Cs}		10	10	1.2×10^3
135_{Cs}		1000	25	8.8×10^{-4}
136_{Cs}		7	7	7.4×10^4
137_{Cs}		30	10	9.8×10
64_{Cu}	Copper (29)	80	25	3.8×10^6
67_{Cu}		200	25	7.9×10^5
165_{Dy}	Dysprosium (66)	100	20	8.2×10^6
166_{Dy}		1000	200	2.3×10^5
169_{Er}	Erbium (68)	1000	25	8.2×10^4
171_{Er}		50	20	2.4×10^6
$152m_{Eu}$	Europium (63)	30	30	2.2×10^6
152_{Eu}		20	10	1.9×10^2
154_{Eu}		10	5	1.5×10^2
155_{Eu}		400	60	1.4×10^3
18_F	Fluorine (9)	20	20	9.3×10^7
52_{Fe}	Iron (26)	5	5	7.3×10^6
55_{Fe}		1000	1000	2.2×10^3
59_{Fe}		10	10	4.9×10^4
67_{Ga}	Gallium (31)	100	100	6.0×10^5
68_{Ga}		20	20	4.0×10^7
72_{Ga}		7	7	3.1×10^6
153_{Gd}	Gadolinium (64)	200	100	3.6×10^3
159_{Gd}		300	20	1.1×10^6
68_{Ge}	Germanium (32)	20	10	7.0×10^3
71_{Ge}		1000	1000	1.6×10^5
3_H	Hydrogen (1) see T-Tritium			
181_{Hf}	Hafnium (72)	30	25	1.6×10^4
$197m_{Hg}$	Mercury (80)	200	200	6.6×10^5
197_{Hg}		200	200	2.5×10^5
203_{Hg}		80	25	1.4×10^4
166_{Ho}	Holmium (67)	30	30	6.9×10^5
123_I	Iodine (53)	50	50	1.9×10^6
125_I		1000	70	1.7×10^4
126_I		40	10	7.8×10^4
129_I		1000	2	1.6×10^{-4}
131_I		40	10	1.2×10^5
132_I		7	7	1.1×10^7

TABLE A-1.—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of table)

48 FR 38449

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
133_{I}		30	10	1.1×10^{6}
134_{I}		8	8	2.7×10^{7}
135_{I}		10	10	3.5×10^{6}
111_{In}	Indium (49)	30	25	4.2×10^{5}
$113m_{In}$		60	60	1.6×10^{7}
$114m_{In}$		30	20	2.3×10^{4}
$115m_{In}$		100	20	6.1×10^{6}
190_{Ir}	Iridium (77)	10	10	6.2×10^{4}
192_{Ir}		20	10	9.1×10^{3}
194_{Ir}		10	10	8.5×10^{5}
42_{K}	Potassium (19)	10	10	6.0×10^{6}
43_{K}		20	10	3.3×10^{6}
$85m_{Kr}$ (uncompressed)*	Krypton (36)	100	100	8.4×10^{6}
$85m_{Kr}$ (compressed)*		3	3	8.4×10^{6}
85_{Kr} (uncompressed)*		1000	1000	4.0×10^{2}
85_{Kr} (compressed)*		5	5	4.0×10^{2}
87_{Kr} (uncompressed)*		20	20	2.8×10^{7}
87_{Kr} (compressed)*		0.6	0.6	2.8×10^{7}
140_{La}	Lanthanum (57)	30	30	5.6×10^{5}
LSA	Low specific activity material—see § 71.4			
177_{Lu}	Lutetium (71)	300	25	1.1×10^{5}
MFP	Mixed fission products	10	0.4	
28_{Mg}	Magnesium (12)	6	6	5.2×10^{6}
52_{Mn}	Manganese (25)	5	5	4.4×10^{5}
54_{Mn}		20	20	8.3×10^{3}
56_{Mn}		5	5	2.2×10^{7}
99_{Mo}	Molybdenum (42)	100	20	4.7×10^{5}
13_{N}	Nitrogen (7)	20	10	1.5×10^{9}
22_{Na}	Sodium (11)	8	8	6.3×10^{3}
24_{Na}		5	5	8.7×10^{6}
$93m_{Nb}$	Niobium (41)	1000	200	1.1×10^{3}
95_{Nb}		20	20	3.9×10^{4}
97_{Nb}		20	20	2.6×10^{7}
147_{Nd}	Neodymium (60)	100	20	8.0×10^{4}
149_{Nd}		30	20	1.1×10^{7}
59_{Ni}	Nickel (28)	1000	900	8.1×10^{-2}
63_{Ni}		1000	100	4.6×10
65_{Ni}		10	10	1.9×10^{7}
237_{Np}	Neptunium (93)	5	0.005	6.9×10^{-4}
239_{Np}		200	25	2.3×10^{5}
185_{Os}	Osmium (76)	20	20	7.3×10^{3}
191_{Os}		600	200	4.6×10^{4}
$191m_{Os}$		200	200	1.2×10^{6}
193_{Os}		100	20	5.3×10^{5}
32_{P}	Phosphorus (15)	30	30	2.9×10^{5}
230_{Pa}	Protactinium (91)	20	0.8	3.2×10^{4}
231_{Pa}		2	0.002	4.5×10^{-2}
233_{Pa}		100	100	2.1×10^{4}
201_{Pb}	Lead (82)	20	20	1.7×10^{6}
210_{Pb}		100	0.2	8.8×10
212_{Pb}		6	5	1.4×10^{6}
103_{Pd}	Palladium (46)	1000	700	7.5×10^{4}
109_{Pd}		100	20	2.1×10^{6}
147_{Pm}	Promethium (61)	1000	25	9.4×10^{2}
149_{Pm}		100	20	4.2×10^{5}
210_{Po}	Polonium (84)	200	0.2	4.5×10^{3}
142_{Pr}	Praseodymium (59)	10	10	1.2×10^{6}
143_{Pr}		300	20	6.6×10^{4}
191_{Pt}	Platinum (78)	100	100	2.3×10^{5}
$193m_{Pt}$		200	200	2.0×10^{5}
$197m_{Pt}$		300	20	1.2×10^{7}
197_{Pt}		300	20	8.8×10^{5}
238_{Pu}	Plutonium (94)	3	0.003	1.7×10
239_{Pu}		2	0.002	6.2×10^{-2}
240_{Pu}		2	0.002	2.3×10^{-1}
241_{Pu}		1000	0.1	1.1×10^{2}
242_{Pu}		3	0.003	3.9×10^{-3}
223_{Ra}	Radium (88)	50	0.2	5.0×10^{4}

TABLE A-1.—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of table)

48 FR 38449

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
224_{Ra}		6	0.5	1.6×10^5
226_{Ra}		10	0.05	1.0
228_{Ra}		10	0.05	2.3×10^2
81_{Rb}	Rubidium (37)	30	25	8.2×10^6
86_{Rb}		30	30	8.1×10^4
87_{Rb}		Unlimited.	Unlimited.	6.6×10^{-8}
$_{Rb}$ (natural)		Unlimited.	Unlimited.	1.8×10^{-8}
186_{Re}	Rhenium (75)	100	20	1.9×10^5
187_{Re}		Unlimited.	Unlimited.	3.8×10^{-8}
188_{Re}		10	10	1.0×10^6
$_{Re}$ (natural)		Unlimited.	Unlimited.	2.4×10^{-8}
$103m_{Rh}$	Rhodium (45)	1000	1000	3.2×10^7
105_{Rh}		200	25	8.2×10^5
222_{Rn}	Radon (86)	10	2	1.5×10^5
97_{Ru}	Ruthenium (44)	80	80	5.5×10^5
103_{Ru}		30	25	3.2×10^4
105_{Ru}		20	20	6.6×10^6
106_{Ru}		10	7	3.4×10^3
35_{S}	Sulphur (16)	1000	60	4.3×10^4
122_{Sb}	Antimony (51)	30	30	3.9×10^5
124_{Sb}		5	5	1.8×10^4
125_{Sb}		40	25	1.4×10^3
46_{Sc}	Scandium (21)	8	8	3.4×10^4
47_{Sc}		200	20	8.2×10^5
48_{Sc}		5	5	1.5×10^6
75_{Se}	Selenium (34)	40	40	1.4×10^4
31_{Si}	Silicon (14)	100	20	3.9×10^7
147_{Sm}	Samarium (62)	Unlimited.	Unlimited.	2.0×10^{-8}
151_{Sm}		1000	90	2.6×10
153_{Sm}		300	20	4.4×10^5
113_{Sn}	Tin (50)	60	60	1.0×10^4
$119m_{Sn}$		100	100	4.4×10^3
125_{Sn}		10	10	1.1×10^5
$85m_{Sr}$	Strontium (38)	80	80	3.2×10^7
85_{Sr}		30	30	2.4×10^4
$87m_{Sr}$		50	50	1.2×10^7
89_{Sr}		100	10	2.9×10^4
90_{Sr}		10	0.4	1.5×10^2
91_{Sr}		10	10	3.6×10^6
92_{Sr}		10	10	1.3×10^7
$_{T}$ (uncompressed)*	Tritium (1)	1000	1000	9.7×10^3
$_{T}$ (compressed)*		1000	1000	9.7×10^3
$_{T}$ (activated luminous paint)		1000	1000	9.7×10^3
$_{T}$ (adsorbed on solid carrier)		1000	1000	9.7×10^3
$_{T}$ (tritiated water)		1000	1000	9.7×10^3
$_{T}$ (other forms)		20	20	9.7×10^3
182_{Ta}	Tantalum (73)	20	20	6.2×10^3
160_{Tb}	Terbium (65)	20	10	1.1×10^4
$96m_{Tc}$	Technetium (43)	1000	1000	3.8×10^7
96_{Tc}		6	6	3.2×10^5
$97m_{Tc}$		1000	200	1.5×10^4
97_{Tc}		1000	400	1.4×10^{-3}
$99m_{Tc}$		100	100	5.2×10^6
99_{Tc}		1000	25	1.7×10^{-2}
$125m_{Te}$	Tellurium (52)	1000	100	1.8×10^4
$127M_{Te}$		300	20	4.0×10^4
127_{Te}		300	20	2.6×10^6
$129M_{Te}$		30	10	2.5×10^4
129_{Te}		100	20	2.0×10^7
$131m_{Te}$		10	10	8.0×10^5
132_{Te}		7	7	3.1×10^5
227_{Th}	Thorium (90)	200	0.2	3.2×10^4
228_{Th}		6	0.008	8.3×10^2
230_{Th}		3	0.003	1.9×10^{-2}
231_{Th}		1000	25	5.3×10^5
232_{Th}		Unlimited.	Unlimited.	1.1×10^{-7}
234_{Th}		10	10	2.3×10^4
$_{Th}$ (natural)		Unlimited.	Unlimited.	2.2×10^{-7}

TABLE A-1.—A_1 AND A_2 VALUES FOR RADIONUCLIDES—Continued

(See footnotes at end of table)

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
$_{Th}$ (irradiated)**				
200_{Tl}	Thallium (81)	20	20	5.8×10^5
201_{Tl}		200	200	2.2×10^5
202_{Tl}		40	40	5.4×10^4
204_{Tl}		300	10	4.3×10^2
170_{Tm}	Thulium (69)	300	10	6.0×10^3
171_{Tm}		1000	100	1.1×10^3
230_{U}	Uranium (92)	100	0.1	2.7×10^4
232_{U}		30	0.03	2.1×10
233_{U}		100	0.1	9.5×10^{-3}
234_{U}		100	0.1	6.2×10^{-3}
235_{U}		100	0.2	2.1×10^{-6}
236_{U}		200	0.2	6.3×10^{-5}
238_{U}		Unlimited.	Unlimited.	3.3×10^{-7}
$_{U}$ (natural)		Unlimited.	Unlimited.	(SEE TABLE A-4)
$_{U}$ (enriched) <20%		Unlimited.	Unlimited.	(SEE TABLE A-4)
20% or greater		100	0.1	(SEE TABLE A-4)
$_{U}$ (depleted)		Unlimited.	Unlimited.	(SEE TABLE A-4)
$_{U}$ (irradiated)***				
48_{V}	Vanadium (23)	6	6	1.7×10^5
181_{W}	Tungsten (74)	200	100	5.0×10^3
185_{W}		1000	25	9.7×10^{-3}
187_{W}		40	20	7.0×10^5
127_{Xe} (uncompressed)*	Xenon (54)	70	70	2.8×10^4
127_{Xe} (compressed)*		5	5	2.8×10^4
$131m_{Xe}$ (compressed)*		10	10	1.0×10^5
$131m_{Xe}$ (uncompressed)*		100	100	1.0×10^5
133_{Xe} (uncompressed)*		1000	1000	1.9×10^5
133_{Xe} (compressed)*		5	5	1.9×10^5
135_{Xe} (uncompressed)*		70	70	2.5×10^6
135_{Xe} (compressed)*		2	2	2.5×10^6
87_{Y}	Yttrium (39)	20	20	4.5×10
90_{Y}		10	10	2.5×10^5
$91m_{Y}$		30	30	4.1×10^7
91_{Y}		30	30	2.5×10^4
92_{Y}		10	10	9.5×10^6
93_{Y}		10	10	3.2×10^6
169_{Yb}	Ytterbium (70)	80	80	2.3×10^5
175_{Yb}		400	25	1.8×10^5
65_{Zn}	Zinc (30)	30	30	8.0×10^3
$69m_{Zn}$		40	20	3.3×10^6
69_{Zn}		300	20	5.3×10^7
93_{Zr}	Zirconium (40)	1000	200	3.5×10^{-3}
95_{Zr}		20	20	2.1×10^4
97_{Zr}		20	20	2.0×10^6

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* For the purpose of Table A-1, compressed gas means a gas at a pressure which exceeds the ambient atmospheric pressure at the location where the containment system was closed.

** The values of A_1 and A_2 must be calculated in accordance with the procedure specified in Appendix A, paragraph II(3), taking into account the activity of the fission products and of the uranium-233 in addition to that of the thorium.

*** The values of A_1 and A_2 must be calculated in accordance with the procedure specified in Appendix A, paragraph II(3), taking into account the activity of the fission products and plutonium isotopes in addition to that of the uranium.

48 FR 38449

TABLE A-2

RELATIONSHIP BETWEEN A_1 AND E_{max} FOR BETA EMITTERS

48 FR 38449

E_{max} (MeV)	A_1 (Ci)
< 0.5	1000
$0.5 - < 1.0$	300
$1.0 - < 1.5$	100
$1.5 - < 2.0$	30
≥ 2.0	10

TABLE A-3

RELATIONSHIP BETWEEN A_3 AND THE ATOMIC NUMBER OF THE RADIONUCLIDE

48 FR 38449

	A_3		
Atomic Number	Half-life less than 1000 days	Half-life 1000 days to 10^6 years	Half-life greater than 10^6 years
1 to 81	3 Ci	.05 Ci	3 Ci
82 and above	.002 Ci	.002 Ci	3 Ci

TABLE A–4.—ACTIVITY-MASS RELATIONSHIPS FOR URANIUM/THORIUM

Thorium and uranium enrichment[1] wt % ^{235}U present	Specific activity	
	Ci/g	g/Ci
0.45	5.0×10^{-7}	2.0×10^{6}
0.72 (natural)	7.06×10^{-7}	1.42×10^{6}
1.0	7.6×10^{-7}	1.3×10^{6}
1.5	1.0×10^{-6}	1.0×10^{6}
5.0	2.7×10^{-6}	3.7×10^{5}
10.0	4.8×10^{-6}	2.1×10^{5}
20.0	1.0×10^{-5}	1.0×10^{5}
35.0	2.0×10^{-5}	5.0×10^{4}
50.0	2.5×10^{-5}	4.0×10^{4}
90.0	5.8×10^{-5}	1.7×10^{4}
93.0	7.0×10^{-5}	1.4×10^{4}
95.0	9.1×10^{-5}	1.1×10^{4}
Natural Thorium	2.2×10^{-7}	4.6×10^{6}

[1] The figures for uranium include representative values for the activity of the uranium-234 which is concentrated during the enrichment process. The activity for Thorium includes the equilibrium concentration of Thorium-228.

48 FR 38449

PART 71 PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL

PROPOSED RULE MAKING

50 FR 13797
Published 4/8/85
Comment period expires 7/8/85

Licenses and Radiation Safety Requirements for Well-Logging Operations

See Part 39 Proposed Rule Making

PART 71 PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL

PETITIONS FOR RULE MAKING

40 FR 43617
Published 9/22/75
Comment Period expires 11/21/75

[Docket No. PRM-71-1]

ENERGY RESEARCH AND DEVELOPMENT ADMINISTRATION

Filing of Petition for Rule Making

Notice is hereby given that the Energy Research and Development Administration has filed with the Nuclear Regulatory Commission a petition for rule making to amend the Commission's regulation "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions," 10 CFR Part 71.

The petitioner requests the Commission to initiate a rule making action to amend §§ 71.7 and 71.10 of 10 CFR Part 71 to exempt from the requirements of Part 71 "low specific activity material" as defined in § 71.4(g).

The petitioner states that the Department of Transportation Hazardous Materials Regulations, 49 CFR 170–189, provide a specific exemption for low specific activity material in which these materials are exempted from the normal Type A and Type B packaging requirements and that this exemption is consistent with both the 1967 regulations of the International Atomic Energy Agency, and the 1972 revised edition of the IAEA regulations.

A copy of the petition for rule making is available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. A copy of the petition may be obtained by writing the Division of Rules and Records at the below address.

All interested persons who desire to submit written comments or suggestions concerning the petition for rule making should send their comments to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, on or before November 21, 1975.

41 FR 15920
Published 4/15/76
Comment Period expires 6/14/76

[Docket No. PRM-71-2]

AMERICAN NATIONAL STANDARDS INSTITUTE COMMITTEE N14

Filing of Petition for Rule Making

Notice is hereby given that Mr. Arthur Spiegelman, by letter dated March 10, 1976, on behalf of the American National Standards Institute Committee N14 on the Packaging and Transportation of Radioactive and Fissile Materials, has filed with the Nuclear Regulatory Commission a petition for rule making to amend the Commission's regulation "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions," 10 CFR Part 71.

The petitioner requests the Commission to initiate a rule making action to amend §§ 71.7 and 71.10 of 10 CFR Part 71 to exempt from the specification container requirements of 10 CFR Part 71 "low specific activity material," as defined in § 71.4(g), transported in the "sole use" mode.

The petitioner states that the regulations of the Department of Transportation in 49 CFR 173.392(b) provide an exemption for low specific activity material from the specification packaging, marking, and labeling requirements for sole use surface transport provided that the requirements of 49 CFR 173.392 (c) or (d) are met.

The petitioner states also that the American National Standards Institute Subcommittee N 14.9 on the packaging and transportation of radioactive wastes has prepared a draft of a standard on the packaging and transportation of liquid aqueous radioactive wastes, but the inconsistency between DOT and NRC regulations has presented difficult problems in trying to reach a national consensus on this matter.

A copy of the petition for rule making is available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

All interested persons who desire to submit written comments or suggestions concerning the petition for rule making should send their comments to the Office of the Secretary, ATTN: Docketing and Service Section, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, on or before June 14, 1976.

41 FR 50359
Published 11/15/76
Comment Period expires 1/14/77

[Docket No. PRM-71-3]

DIAGNOSTIC ISOTOPES CORP.

Filing of Petition for Rulemaking

Notice is hereby given that Mr. James J. Finn, President, Diagnostic Isotopes, Incorporated, by letter dated October 1, 1976, has filed with the Nuclear Regulatory Commission a petition for rule making to amend the Commission's regulation "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions," 10 CFR Part 71.

The petitioner requests the Commission to initiate a rulemaking action to amend Appendix C of Part 71 to include the radionuclide lead-201 in Transport Group IV.

The petitioner states that lead-201 is closely associated with thallium-201 which is presently listed in Group IV of Appendix C and due to the short half-lives of these nuclides, the time for transportation of lead-201 can be utilized for the build-up of thallium-201, which isotope is useful in clinical diagnosis. The petitioner also states that the toxicity and relative potential hazard in transport for lead-201/thallium-201 is low.

A copy of the petition for rule making is available for public inspection in the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, Nuclear Regulatory Commission, Washington, D.C. 20555.

All interested persons who desire to submit written comments or suggestions concerning the petition for rule making should send their comments to the Office of the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, on or before January 14, 1977.

42 FR 5149
Published 1/27/77
Comment Period expires 3/28/77

[Docket No. PRM-71-4]

CHEM-NUCLEAR SYSTEMS, INC.

Filing of Petition for Rule Making

Notice is hereby given that the Chem-Nuclear Systems, Inc., P.O. Box 1866, Bellevue, Washington, by letter dated November 22, 1976, has filed with the Nuclear Regulatory Commission a petition for rule making to amend the Commission's regulation "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions", 10 CFR Part 71.

The petitioner requests the Commission to amend §§ 71.7 and 71.10 of 10 CFR Part 71 to exempt from the specification container requirements of Part 71 "low specific activity material" as defined in § 71.4(g). The petitioner states that § 71.4(g) defines the term "low specific activity material" using the same language provided in § 173.389 of the Department of Transportation (DOT) Hazardous Materials Regulations, 49 CFR Parts 170–189, and that the DOT regulations provide a specific exemption for "low specific activity material" from the type A and type B packaging requirements. The petitioner states that this exemption is consistent with both the 1967 regulations of the International Atomic Energy Agency and the 1972 revised edition of the IAEA regulations.

A copy of the petition for rule making is available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

All interested persons who desire to submit written comments or suggestions concerning the petition for rule making should send their comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, by March 28, 1977.

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42 FR 61089
Published 12/1/77
Comment period expires 1/30/78

[Docket No. PRM-71-6]

CRITICAL MASS ENERGY PROJECT, ET AL.

Filing of Petition for Rule Making

Notice is hereby given that Mr. Richard P. Pollock, Director of the Critical Mass Energy Project, by letter dated October 31, 1977, on behalf of the Critical Mass Energy Project, the Honorable Theodore S. Weiss, the Honorable Timothy E. Wirth, the California Citizen Action Group, Community Action Research Group of Ames, Iowa, Environmental Action of Colorado, Massachusetts Public Interest Research Group, Michigan Public Interest Research Group, National Intervenors, Inc., New York Friends of the Earth, New York Public Interest Research Group, North Carolina Public Interest Research Group, Southwest Research and Information Center, and Vermont Public Interest Research Group, has filed with the Nuclear Regulatory Commission a petition for rule making to amend the Commission's regulations.

The petitioners request the Commission to adopt regulations which, at a minimum, impose the following conditions on its licensees:

1. The use of special routes for the transportation of radioactive materials of all types to insure that such shipments avoid densely populated areas and mountainous terrain.
2. The adoption of emergency plans for transportation accidents involving their cargo, including (a) the organization of emergency response units to carry out the plan and (b) semi-annual drills with local and State law enforcement officials.
3. The assumption by licensees of financial responsibility for any shipping accident that involves the dispersal of their radioactive cargo.
4. A plan for informing the drivers of the vehicles about the nature of the material they are shipping and emergency actions they should undertake in the event of an accident.

The petitioners state that the regulations should require that all licensees be in compliance with the regulations within 60 days of their promulgation and that each licensee be required to demonstrate to the Commission within 60 days after the effective date of the regulations that the licensee possesses the capability to deploy emergency response units promptly to an accident scene and to otherwise carry out its plan successfully. The petitioners state also that the proposed regulations would place on each licensee the responsibility of requiring the shipper of the licensee's nuclear material to adopt the licensee's emergency plan, including taking special routes to avoid densely populated regions and mountainous terrain.

As a basis for the requested action the petitioners state that experts both inside and outside the Federal Government have concluded that there is a need for emergency response plans to protect the public in the event of an accident in transporting radioactive materials. The petitioners also state that although there has not yet been a transportation accident resulting in widespread injury to the public, the experience of the recent accident in southeastern Colorado shows that the present system is wholly inadequate to deal with the risk to the public health from a transportation accident, and that regulations by the Commission are essential. The petitioners state further that the Commission requires nuclear power reactor licensees to adopt emergency response plans, but there is no similar requirement for licensees of nuclear materials to be transported, even though a transportation accident would involve shippers and localities wholly unfamiliar with radioactive materials.

A copy of the petition for rule making is available for public inspection in the Commission's Public Document Room, 1717 H Street NW., Washington, D.C. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

All persons who desire to submit written comments or suggestions concerning the petition for rule making should send their comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch by January 30, 1978.

ADDRESSES: A copy of the petition for rulemaking is available for public inspection in the Commission's Public Document Room, 1717 H Street, NW, Washington, DC. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

All persons who desire to submit written comments or suggestions concerning the petition for rulemaking should send their comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch.

FOR FURTHER INFORMATION CONTACT: Joseph M. Felton, Director, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: 301-492-7211.

SUPPLEMENTARY INFORMATION: The petitioner states that radiography licensees are authorized by NRC to use only specific sources and source shipping containers and that (Foster Wheeler) "* * * cannot register with the NRC Transportation Branch to be a user of a package unless we are also licensed to use that same package by the NRC Radioisotopes Licensing Branch."

The petitioner, an NRC Byproduct Material Licensee, states that the preparation of its written procedures concerning the use and transporting of source shipping containers (as specified in §§ 34.32 and 71.51) was accomplished without using the information required by § 71.12(b)(1)(i), yet these procedures apparently meet NRC requirements.

The petitioner further states that the documents which are maintained pursuant to § 71.12(b)(1)(i) have not proved to be needed or useful on other occasions and that "the regulation, as it pertains to our license category [Industrial Radiography Licensees], offers no positive effect on the safe transportation of radioactive material and should be withdrawn."

A recently denied petition (Chem-Nuclear Systems, PRM-71-5) was filed on similar grounds; however, the petitioner states that its petition (PRM-71-8) relates to different issues.

Copies of Chem-Nuclear Systems' petition and the Commission's Notice of Denial are also available in the Public Document Room and may be obtained by writing to the Division of Rules and Records at the above address.

≫49 FR 44502
Published 11/7/84

10 CFR Part 71

[Docket No. PRM-71-6]

Critical Mass Energy Project, et al.; Denial of Petition for Rulemaking Concerning Emergency Planning and Response for Transportation Accidents Involving Radioactive Materials

AGENCY: Nuclear Regulatory Commission.

ACTION: Denial of Petition for Rulemaking.

SUMMARY: The Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking (PRM-71-6) from Richard P. Pollock of the Critical Mass Energy Project on behalf of the Critical Mass Energy Project, Congressman Theodore S. Weiss (NY) and Timothy E. Wirth (CO), and 11 citizen organizations on the basis that issues raised by the petitioners have been overtaken by subsequent actions. The petitioners requested that the NRC adopt regulations in four areas pertaining to the transportation of radioactive materials. The NRC has carefully considered the issues raised in the petition, as described herein; and has taken them into account in reaching a decision on the areas which fall within its jurisdiction.

ADDRESSES: Copies of the petition for rulemaking, the public comments thereon, and the NRC's letter of denial are available for public inspection and copying in the NRC Public Document Room, 1717 H Street NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Dr. Anthony N. Tse, Regulatory Analysis and Materials Risk Branch, Division of Risk Analysis and Operations, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC. 20555; telephone: (301) 443-7902.

SUPPLEMENTARY INFORMATION:

The Petition

By letter dated October 31, 1977, Mr. Richard P. Pollock of the Critical Mass Energy Project, on behalf of the Critical Mass Energy Project; Congressman Theodore S. Weiss; Congressman Timothy E. Wirth; the California Citizen Action Group; Community Action Research Group of Ames, Iowa; Environmental Action of Colorado; Massachusetts Public Interest Research Group; Michigan Public Interest Research Group; National Intervenors, Inc.; New York Friends of the Earth; New York Public Interest Research Group; North Carolina Public Interest Research Group; Southwest Research and Information Center; and Vermont Public Interest Research Group, filed with the NRC a petition for rulemaking to amend NRC regulations.

The petitioners requested that the NRC adopt regulations that would, at a minimum, impose the following conditions on NRC licensees:

1. The use of special routes for the transportation of radio-active materials of all types to ensure that the shipments avoid densely populated areas and mountainous terrain.
2. The adoption of emergency plans for transportation accidents involving radioactive materials, including (a) the organization of emergency response units to carry out the plans and (b) semiannual drills with local and State law enforcement officials.
3. The assumption of financial responsibility for any shipping accident that involves the dispersal of radioactive materials.
4. The adoption of a plan for informing drivers of vehicles about the nature of the materials they are shipping and about emergency actions they should undertake in the event of an accident.

Basis for Requests

As a basis for the requested action, the petitioners stated that experts both inside and outside the Federal Government have concluded that there is a need for emergency response plans to protect the public in the event of an accident in transporting radioactive materials.

The petitioners also stated that although there has not yet been a transportation accident resulting in widespread injury to the public, the experience of the September 27, 1977, accident in southeastern Colorado shows that the present system is "wholly inadequate to deal with the risk to the public health from a transportation accident, and that regulations by the Commission are essential."

The petitioners further stated that the NRC requires nuclear power reactor licenses to adopt emergency response plans, but "there is no similar requirement for licensees of nuclear materials to be transported, even though a transportation accident would involve shippers [meaning carriers or transporters] and localities wholly unfamiliar with radioactive materials."

Public Comments on the Petition

A notice of filing of petition for rulemaking was published in the **Federal Register** on December 1, 1977 (42 FR 61089). Interested persons were invited to submit written comments or suggestions concerning the petition by

January 30, 1978. The NRC received 40 comments in response to the notice: 35 from industry, industrial representative organizations, and industrial associations; three from individuals; and two from governmental agencies.

A majority of the commenters (34) opposed the petition. The main reasons cited by these commenters were:

1. The petitioners failed to provide sufficient safety, environmental, or legal justifications for implementing the actions proposed.
2. The implementation of the actions proposed would be extremely costly without corresponding public benefits.
3. Consideration should be given to transportation accidents for all hazardous materials, not just radioactive materials, and therefore, the Department of Transportation is the proper agency to address the overall transportation problem.
4. The current regulatory system is adequate to protect the public health and safety, and, therefore, it is unnecessary to implement the actions proposed.

Of the remaining six commenters, four suggested that the proposed actions exempt shipments containing small amounts of radioactive materials for medical, research, or industrial uses. The fifth commenter stated that the proposed actions should apply to all hazardous materials. The sixth commenter disagreed with parts of the petition but suggested that action on the petition be deferrred until NUREG/CR-0743 (Transportation of Radionuclides in Urban Environs: Draft Environmental Assessment) had been completed and issued for comment. The report was published in July 1980.

Staff Actions on the Petition

The response to the petition for rulemaking was delayed because of the following related actions: (1) after a truck accident in 1977 which resulted in a spill of yellowcake (uranium concentrate), the Department of Transportation (DOT) and the NRC conducted a special study on packaging integrity and emergency response to transportation accidents. Because the study included all four issues raised in the petition, the response to the petition was delayed pending the completion of the study. The study report was published in 1980; and (2) the DOT initiated a rulemaking proceeding on highway routing of radioactive materials in 1978. The NRC forwarded a copy of the petition and the public comments thereon to DOT for its consideration because one issue raised in the petition addressed highway routing of radioactive materials. DOT published its final rule in 1981, but this rule was challenged by the City and State of New York in Federal court. In February 1984, the rule was declared valid as originally promulgated. Each action is discusssed below:

1. In June 1978, the NRC notified the petitioners that action on the petition would be delayed pending completion of a related NRC/DOT study on packaging requirements for yellowcake (uranium concentrate) shipments and on emergency response to transportation accidents.

This study was begun after a truck accident on September 27, 1977, near Springfield, Colorado, resulted in a spill of a large amount of yellowcake onto a highway. Members of the U.S. Congress representing the State of Colorado and other officials of that State expressed concern about the integrity of packages containing yellowcake and the emergency response to transportation accidents involving radioactive materials. Representatives of NRC and DOT met with Congressman Timothy E. Wirth at his request. As a result of the discussions, the two agencies agreed to conduct a special joint study on package integrity and emergency response to transportation accidents. The study considered, among other things, all four areas addressed by the petitioners.

The study group published a draft report for comment in April 1979. The comments received on this draft were incorporated in the final study group report, "Review and Assessment of Package Requirements (Yellowcake) and Emergency Response to Transportation Accidents" (NUREG-0535), which was published in July 1980.

2. In April 1979, the NRC notified the petitioners that a copy of the petition and the 40 public comments received had been transmitted to the Materials Transportation Bureau (MTB) of the Department of Transportation (DOT). Since the first part of the petition concerned the use of special routes for highway transportation of radioactive materials, the NRC believed that the petition and the comments thereon should be considered by MTB in its rulemaking proceeding on highway routing of radioactive materials.

The MTB published an Advance Notice of Proposed Rulemaking on highway routing of radioactive materials on August 17, 1978 (43 FR 36492). The notice stated that the MTB was considering promulgating routing requirements, under the authority of the Hazardous Materials Transportation Act, for highway carriers of radioactive materials. The MTB invited public comments on what Federal action would be justified. The large number of comments were reflected in the Notice of Proposed Rulemaking, published January 31, 1980, in the **Federal Register** (45 FR 7140). Public meetings on this proposed rule were held in several major cities. The final rule was published on January 19, 1981 (46 FR 5298), and was to become effective on February 1, 1982. (As a result of the litigation discussed below, the U.S. District Court stayed the effective date of the DOT rule until February 19, 1982.)

The final rule was challenged by the City of New York and the State of New York. On May 6, 1982, the District Court for the Southern District of New York declared invalid, in part, the highway routing regulations promulgated by the DOT. The DOT appealed the decision to the United States Court of Appeals for the Second Circuit. On August 10, 1983, the Circuit Court reversed and remanded the matter to the District Court for entry of a judgment upholding the DOT regulations. The City of New York and the State of New York then petitioned the United States Supreme Court for review of the Circuit Court's decision. On February 27, 1984, the Supreme Court denied the petition and refused to review the Circuit Court's decision. The result of the Supreme Court's action was to give validity to the DOT highway routing regulations as promulgated.

Reasons for Denial

The petitioners' concerns basically relate to that portion of transportation when radioactive materials are in the care of the carriers. The Congress has authorized both the NRC and the DOT to regulate the transportation of radioactive materials. These two agencies have agreed, by Memorandum of Understanding (executed June 8, 1979), to partition their regulatory responsibilities. Generally, the DOT is responsible for regulating safety in transportation of all hazardous materials, including radioactive materials, and the NRC is responsible for review and approval of package designs for fissile materials and for other radioactive materials in quantities exceeding type A limits, as defined in 10 CFR Part 71.

The NRC has considered the petition, the public comments thereon, the conclusions reached by the NRC/DOT study group, the DOT's rules on highway routing and financial responsibility, and other related information and has concluded that the issues raised in the petition have been substantively resolved by subsequent Federal action. The following discussion addresses each part of the petition.

Part 1: The use of special routes for the transportation of radioactive materials of all types to ensure that the shipments avoid densely populated areas and mountainous terrain.

This issue has been considered in a rulemaking proceeding by the Department of Transportation, which is the Federal agency with jurisdiction in this matter. The Materials Transportation Bureau of the Department of Transportation has conducted a rulemaking proceeding on highway routing of radioactive material shipments. As stated above, NRC provided MTB a copy of the petition and public comments received thereon for consideration in the rulemaking proceeding. The final rule was published on January 19, 1981, and became effective on February 19, 1982. The final rule was challenged by the City of New York and the State of New York and was upheld by the Second Circuit Court of Appeals. On February 27, 1984, the U.S. Supreme Court refused to review the Circuit Court's decision. The result of the Supreme Court's action was to give validity to the DOT highway routing regulations as promulgated.

The DOT rule requires carriers to use an interstate highway or an alternate "preferred route" that minimizes radiological risk. The DOT rule was based in part on NRC advice and studies concerning transportation risks and was subject both to considerable public review and deliberation and to judicial scrutiny. The NRC does not believe it is necessary to require further restrictions beyond the DOT rule.

Part 2: The adoption of emergency plans for transportation accidents involving radioactive materials, including (a) the organization of emergency response units to carry out the plan and (b) semiannual drills with local and State law enforcement officials.

The NRC considers the public health and safety to be adequately protected by current requirements for emergency response. Several organziations are involved in emergency response to transportation accidents: State and local personnel such as fire and police are responsible for emergency actions immediately following an accident; shippers are responsible for providing shipment hazard information; carriers are responsible for isolating and cleaning up the spilled radioactive materials; and certain Federal agencies are responsible for providing assistance to State and local governments. At the Federal level, the Federal Emergency Management Agency (FEMA) coordinates such Federal assistance; the DOT and NRC provide assistance to FEMA; and the DOE maintains radiological assistance teams that respond to radiological emergencies when requested. It is not practicable nor necessary to require shippers to duplicate the existing immediate emergency response capabilities to respond to the scene of a transportation accident.

The NRC/DOT study group considered the question of carrier's and shipper's emergency plans for transportation accidents. The study group found that, in general, the carrier (transporter) is responsible for proper care of cargo in transit. In an accident, the carrier is responsible for notifying the shippers and government authorities, isolating any spilled material from the public, and cleaning up any spilled material.

Since, in many cases, the carrier will have neither the technical expertise nor the experience and equipment to handle radioactive materials, the carrier may find it necessary to make arrangements with others to accomplish these duties. The carrier could make contractual arrangements with the shipper or any other organization that is capable of handling cleanup activities. However, the basic burden of ensuring that these provisions are made remains with the carrier.

Under existing DOT regulations (49 CFR 177.861), the highway carrier is responsible for promptly notifying the shipper (licensee) and the Federal Government of accidents; for isolating spilled radioactive material; and for ensuring that vehicles, buildings, areas, or equipment in which radioactive material has been spilled are not used until the radiation dose rate of any accessible surface is less than 0.5 millirem per hour and there is no significant removable radioactive contamination on the surfaces.

The shipper, on the other hand, is required by DOT regulations to comply with all applicable provisions concerning packaging, labeling, marking, and otherwise preparing the goods for transportation. For hazardous materials, the shipper is required to certify on the shipping papers that the goods are properly classified, described, packaged, marked, and labeled, and are in proper condition for transport (49 CFR 172.204). The shipper has no specific responsibilities for sending expert personnel to the accident scene but should be prepared to provide expert advice on the hazards of the shipment and any necessary precautions. However, since the shipper could be involved in a liability suit later, it may offer assistance in confining and cleaning up spills from any accident involving its shipment.

Concerning the request for semiannual drills with local and State law enforcement officials, it is impractical and probably not costeffective to require each shipper or carrier to conduct semiannual drills with local and State personnel in localities through which the shipment might travel. However, the training of local and State first-on-the-scene responders (such as law enforcement, fire fighting, and rescue personnel) on handling transportation emergencies involving radioactive materials is important. The Department of Transportation, with assistance from other Federal agencies, including the NRC, continues to develop and undate guidance and training materials for such first-on-the-scene responders. For these reasons, the NRC will not adopt the petitioners' suggestion concerning semiannual drills with local and State law enforcement officials.

Part 3: The assumption by licensees of financial responsibility for any shipping accident that involves the dispersal of radioactive materials.

The NRC believes that the liability for damages should be determined by the courts considering both the applicable State tort law and the particular circumstances associated with the accident.

If the origin or destination of the radioactive material being transported were a facility (for example, a nuclear power plant) for which the NRC required the licensee to have and maintain financial protection, the provisions of the Price-Anderson Act (Section 170 of the Atomic Energy Act of 1954, as amended) would ensure a source of funds up to $585 million for personal injury or property damage resulting from the transportation accident. The Price-Anderson Act does not preempt applicable State tort law, but in the event of an "extraordinary nuclear occurance" a facility licensee may be required to waive certain defenses that would otherwise be available.

Section 30 of the "Motor Carrier Act of 1980" (Pub. L. 96–296, as amended by section 406 of Pub. L. 97–424) requires the Secretary of Transportation, among other things, to establish regulations on minimum levels of financial responsibility for the transportation of hazardous materials by motor vehicles. The rule implementing this provision on minimum financial responsibility was published by DOT on June 11, 1981 (46 FR 30974) and subsequently amended on February 7, 1983 (48 FR 5560), on June 28, 1983 (48 FR 29699), and on July 2, 1984 (49 FR 27288). For radioactive materials, the minimum levels of financial responsibility are $1 million ($5 million effective January 1, 1985) for any vehicle transporting large quantities of radioactive materials and $500,000 ($1 million effective January 1, 1985) for transporting radioactive materials in other than large quantities.

Aside from the question of ultimate financial responsibility, the carrier should be prepared to assume the initial costs required to discharge its responsibilities in performing emergency response actions such as confining or cleaning up the spills. In terms of cost for emergency or protective actions that may be taken by the State or local governmental agencies, these agencies can reasonably be expected to be prepared to assume initial costs incurred as in other emergency situations such as fires and floods.

Part 4: A plan for informing the drivers of the vehicles about the nature of the material they are shipping and emergency actions they should undertake in the event of an accident.

The NRC considers existing DOT regulations for driver information to be adequate. Present DOT regulations require that a shipment of radioactive materials be accompanied by a description of each radionuclide contained in the shipment including: the name and radioactivity of each radionuclide, the physical and chemical forms, and other information regarding labels, external radiation levels, and fissile class (49 CFR 172.203). These requirements involve a system of labels for packages, placards for vehicles, shipping paper descriptions, and other package markings.

In the final rule on highway routing of radioactive materials published by DOT in January 1981 (46 FR 5298), specific training requirements are mandated for persons transporting large quantities of radioactive materials. The training includes, among other things, a requirement that the driver receive training on properties and hazards of the radioactive material transported and procedures to be followed in case of accidents or other emergencies.

In view of the DOT requirements, there does not appear to be a need for NRC to require shippers to provide and carriers to maintain additional detailed emergency procedures for the driver to undertake in case of accident.

Since each of the issues raised in the petition has been substantively resolved, the NRC has denied this petition.

Dated at Washington, DC this 2nd day of November, 1984.

For the Nuclear Regulatory Commission.
Samuel J. Chilk,
Secretary of the Commission.

>50 FR 4866
Published 2/4/85
Comment period expires 4/5/85

10 CFR Part 71

[Docket No. PRM-71-10]

State of Wisconsin; Filing of Petition for Rulemaking

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of receipt of petition for rulemaking from the State of Wisconsin.

SUMMARY: The Commission is publishing for public comment this notice of receipt of a petition for rulemaking dated December 13, 1984, which was filed with the Commission by the State of Wisconsin. The petition was docketed by the Commission on December 17, 1984, and has been assigned Docket No. PRM-71-10. The petitioner requests that the Commission establish a regulatory process, that would provide an opportunity for public participation, for the evaluation and approval of proposed shipments of irradiated reactor fuel (spent fuel).

DATE: Submit comments by April 5, 1985. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date

ADDRESSES: All persons who desire to submit written comments concerning the petition for rulemaking should send their comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch.

For a copy of the petition, write the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

The petition and copies of comments may be inspected and copied for a fee at the NRC Public Document Room, 1717 H Street NW., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: John Philips, Chief, Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: 301-492-7086 or Toll Free: 800-368-5642.

SUPPLEMENTARY INFORMATION:

I. Background

The petitioner points out that the transportation of irradiated reactor fuel is an increasingly significant activity because nuclear reactor facilities are reaching maximum capacity of their spent fuel storage pools. Additionally, there is a reduction in away-from-reactor storage, with the General Electric facility at Morris, Illinois, offering the only off-site storage alternative.

Since the petitioner is a state through which numerous shipments of irradiated reactor fuel have passed and through which future shipments are scheduled, the petitioner has an interest in protecting its citizens by ensuring that transporters of spent fuel have adequately prepared for potential emergencies.

As the petitioner indicates, there have been over 200 highway shipments of spent fuel through the State of Wisconsin since August 1983. Additional shipments have been scheduled by rail and are expected to continue over the next five years.

For each of these shipments, the petitioner alleges, there has been no Federal agency considering the need for the shipments, the safety or environmental risks associated with the selected routes, or the propriety of exposing the public to these risks. The petitioner further alleges that there is no agency currently requiring adequate safeguards to protect against emergencies.

II. Federal Responsibility

The petitioner indicates that there are three Federal agencies which could potentially influence spent fuel transportation decisionmaking.

Department of Energy

The Department of Energy (DOE), under the Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101 et seq.) is responsible for the long-term storage and disposal of commercially generated spent fuel. However, in its draft Mission Plan, DOE has indicated that its responsibility for spent fuel will not begin until it accepts title to the waste in 1998. In addition, DOE has specifically informed the petitioner that its policy against unnecessary shipments of wastes does not apply to NRC licensees prior to 1998, unless such wastes are being shipped to a Federal interim storage facility (which does not yet exist).

Department of Transportation

The Department of Transportation (DOT) exercises jurisdiction over spent fuel transportation, under the Hazardous Transportation Act (42 U.S.C. 1801 et seq.). The petitioner points out that DOT has established generic rules for highway transportation of radioactive waste. In addition, petitioner alleges, DOT has uniformly held that state efforts at regulation are preempted by Federal regulations.

Nuclear Regulatory Commission

The NRC, the petitioner points out, currently regulates spent fuel shipments to a limited extent (10 CFR 71.12; 10 CFR Part 71, Subpart H; and 10 CFR 73.37). The petitioner alleges, however, that the NRC does not evaluate the potential safety and environmental risks of the shipments or the need for the shipments and only gives cursory attention to emergency planning. In addition, the petitioner points out that the NRC does not regulate the carrier or consider its safety record.

III. Petitioner's Solution to the Problem

The petitioner alleges that there is a significant gap in the regulatory program regarding shipment of spent fuel shipments, because no Federal agency considers the risks associated with specific routes. Furthermore, no Federal agency considers the need for the shipment or the propriety of the shipment in light of potential risks, and the public has no opportunity to participate in the decision to transport waste.

IV. Proposed Amendments to 10 CFR Part 71

Therefore, the petitioner proposes the following amendments to 10 CFR Part 71: Advance approval for transportation of irradiated reactor fuel.

(a) No licensee may transport, or deliver to a carrier for transport, in a single shipment, a quantity of irradiated reactor fuel in excess of 100 grams in net weight of irradiated fuel, exclusive of cladding or other structural or packaging material, which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding, unless that licensee first obtains the approval of the Commission.

(b) An application for approval of a shipment of irradiated reactor fuel must be made in writing at least 120 days prior to the proposed shipment, and must demonstrate that:

(1) The applicant has fulfilled the requirements of §73.37 of this chapter;

(2) The proposed shipment is necessary to meet the requirements of the licensee's operating license or required minimum fuel storage capacity;

(3) The proposed route complies with all applicable DOT safety and routing regulations;

(4) There are no route-specific conditions or hazards which create unique risks of accidents, sabotage, or radiological exposure; and

(5) The applicant has evaluated alternatives to the proposed shipment and alternative routes and has demonstrated that the proposed shipment is the alternative for handling the irradiated reactor fuel which provides the least risk of radiological exposure to the public.

(6) The proposed shipping cask is shown to be capable of withstanding all reasonably foreseeable incidents along the proposed route which could interrupt the shipment.

(c)(1) Upon receipt of the application, the Commission shall provide notice of receipt of the application in the **Federal Register** and to each state along the proposed route.

(2) Any interested person, including any state or municipality along the proposed route, may submit written comments and request a hearing concerning the applicant's compliance with paragraph (b)(1) of this section, within 30 days after publication of the application in the **Federal Register.**

(3) The Commission shall issue a decision on the application within 60 days after completion of any hearing held under paragraph (c)(2) of this section.

(d) The Commission's action under this section is an action for which an environmental impact statement may be necessary, in accordance with 10 CFR 51.21.

V. Conclusions

In conclusion, the petitioner asserts that the NRC has the primary responsibility to protect against the risks of radiation exposure, and the petitioner requests the NRC to adopt the proposed rule that will provide the NRC and the public the opportunity to evaluate the propriety of spent fuel shipments. Finally, the petitioner requests that the NRC refrain from approving the routes for any shipments of irradiated reactor fuel until the requested rule has been promulgated.

Dated at Washington, D.C., this 30th day of January 1985.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 71 PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL

STATEMENTS OF CONSIDERATION

31 FR 9941
Published 7/22/66
Effective 8/22/66

The regulations of the Atomic Energy Commission (AEC), 10 CFR Parts 30, 40, and 70, require that before the AEC approves an application for license to receive, possess, use or transfer byproduct, source, or special nuclear material, it must determine that the applicant's proposed program is adequate to protect health and minimize danger to life and property.

In 1958, the AEC adopted 10 CFR Part 71, "Regulations to Protect Against Accidental Conditions of Criticality in the Shipment of Special Nuclear Material". This regulation established procedures for approval of transport of special nuclear material, but set only limited standards. Certain small shipments under specified conditions were exempted from the licensing requirement.

On March 5, 1963, the AEC published a proposed revision of Part 71 (28 F.R 2134), incorporating many detailed specifications regarding acceptable shipping methods. Public response to that proposed revision suggested that the detailed standards proposed might impair the growth of the industry and development of improved safety concepts and that the regulation should emphasize performance standards rather than detailed design standards. Proposed Part 72, "Protection Against Radiation in the Shipment of Irradiated Fuel Elements" (26 F.R. 8982, 28 F.R. 2142), which proposed standards and procedures for packaging and transport of irradiated solid nuclear fuel, elicited a similar public response.

On December 21, 1965, the AEC published for comment a proposed revision of Part 71 (30 F.R. 15748). The proposed revision combined the standards for unirradiated and irradiated fissile material previously proposed separately as Parts 71 and 72, and added standards and procedures for the shipment of large quantities of licensed material. It emphasized performance standards to determine the adequacy of proposed shipping methods, with the method of satisfying those performance standards left to the ingenuity of the shippers. The proposed performance standards would be compatible with those developed by the International Atomic Energy Agency during the past 2 years.

Subsequent to the publication of proposed Part 71, a Memorandum of Understanding between the Interstate Commerce Commission (ICC) and AEC was signed. In the Memorandum, the two agencies agree, subject to their respective statutory authorities, that (1) ICC will adopt appropriate regulations and requirements applicable to transport of all radioactive materials, and to shippers of all types and quantities of radioactive materials, but will avoid duplicatory standards with respect to preparation for shipments of fissile materials and large quantities of radioactive material, and (2) AEC will adopt appropriate regulations applicable to standards for the preparation for shipment of fissile material and large quantities of radioactive material and will be responsible for the adoption of regulations and requirements applicable to its licensees or contractors as may be necessary to protect against radiation and criticality hazards in the transportation of all radioactive material where shipment is outside the regulatory jurisdiction of ICC.

Under the Memorandum of Understanding, the ICC will utilize the assistance of AEC on container approvals for fissile materials and large quantities of radioactive materials. The AEC and ICC are working together to develop criteria for additional "specification containers" in order to reduce the number of special container permits issued by ICC.

Several changes have been incorporated in the regulation, as adopted, as a result of the Memorandum of Understanding, and the publication of amendments to ICC regulations on April 29, 1966 (31 F.R. 6492), covering some of the same areas covered in the notice of proposed rule making published by the AEC on December 21, 1965 (30 F.R. 15748). Thus, the following provisions that were contained in that AEC proposed rule have been omitted in the effective rule set out below:

1. Section 71.11 of the proposed rule, which would have imposed ICC requirements through AEC authority;
2. References throughout the proposed rule to transport of radioactive material by a licensee;
3. The radiation level limitations in proposed § 71.34;
4. The definitions of "milliroentgen per hour or equivalent" and "transport unit" in proposed § 71.4 (j) and (u);
5. The requirement in proposed § 71.40 (b) that a Fissile Class II package be labelled as prescribed by ICC, although the procedure for determining the minimum "radiation unit" for criticality control has been retained;
6. The requirement in proposed § 71.40 that a licensee not transport or deliver to a carrier more than 40 units of Fissile Class II packages, nor a single package with a calculated radiation unit of more than 10;
7. The requirement in proposed § 71.41(b) for Fissile Class III transport procedures to protect against commingling with other fissile material;
8. The requirement in proposed § 71.54 for routine determinations with regard to the radiation level limits, surface contamination limits, and transport procedures.

The definition of "carrier" in proposed § 71.4 has been modified to conform to usage under the Transportation of Explosives and Other Dangerous Articles Act (18 U.S.C. §§ 832–837), which is administered by the ICC.

Other significant differences from the regulation published for comment are:

1. The definition of the term "fissile material" has been restricted to those isotopes of uranium and plutonium which must now be controlled during transport to avoid criticality.
2. A requirement in proposed § 71.31 (b) which imposed a temperature standard on the materials and fabrication of packaging has been deleted. Correspondingly, the temperature to be considered for Normal Conditions of Transport set out in Appendix A has been increased from 100° F. to 130° F. This increased ambient temperature would provide for the more extreme conditions which might be encountered in normal transport.
3. The requirement in proposed § 71.31 (e) that primary coolant not circulate outside of the shielding has been deleted.
4. The lifting and tie-down device requirements in purposed § 71.31 (f) and (g) have been modified to make it clear that the standards apply only to devices which are a structural part of the packaging. The modified requirements are

included in § 71.31 (c) and (d) set forth below.

5. The pressure design standards of the proposed § 71.32(b)-(d), including that for a pressure relief device, have been replaced by an internal pressure test to be initially performed on each individual package which will be subjected to significant internal pressure, set out in § 71.53(b).

6. The specific temperature restriction, contained in proposed § 71.33, on large quantity packages, assuming loss of coolant and cooling devices, has been omitted, as has the corresponding test requirement of proposed § 71.53(b). Temperature restrictions will be effectuated through the performance standards of §§ 71.35 and 71.36. Requirements have been included in § 71.35 set out below to assure that there will be no loss of coolant under the Normal Conditions of Transport.

7. The limitation on loss of shielding under the Hypothetical Accident Conditions (Appendix B) has been revised to specify an allowable increase in radiation levels to 1,000 milliroentgens per hour or equivalent at 3 feet from the external surface of the package.

8. The provisions relating to assumed inleakage of water to and outleakage of liquids from fissile material packages in determining subcriticality in proposed § 71.37(b)(3) have been revised and redesignated § 71.33.

9. The requirement in proposed § 71.39 (a) that Fissile Class I packages be considered with other types of Fissile Class I packages has been deleted as unnecessary in view of the provision for assumed interspersed moderation.

10. The requirement in proposed § 71.51(a) for licensee quality control procedures has been replaced by a performance requirement in § 71.53(c) set out below that the licensee assure that the packaging is fabricated in accordance with the design approved by the AEC.

11. The list of items to be included in a licensee's operating procedures required by proposed § 71.51(b) has been deleted from the regulation.

Additional minor changes from the proposed rule have been incorporated in the effective rule.

The rule, set forth below, establishes packaging standards for the shipment of fissile material, both unirradiated and irradiated, and of large quantities of licensed radioactive material. The rule specifies the quantities and methods of transport which are exempt from Part 71 requirements and those which are under a general license. The exemption and general license provisions are applicable to shipments which from a safety standpoint do not require an AEC packaging evaluation. Those shipments are subject to regulation by federal transport agencies. For shipments not exempted or generally licensed, the rule prescribes the determinations which must be made with respect to packaging and shipping precautions required in order to assure nuclear safety of shipping methods.

With a few exceptions, the basic organization and standards set out below have not been changed significantly from those contained in the notice of proposed rule making, issued on December 21, 1965 (30 F.R. 15748). A detailed explanation of the organization and standards of Part 71 is made in the notice of proposed rule making.

The rule set out below divides radionuclides into a number of groups, each having a comparable potential hazard in transport. These groups were derived from the International Atomic Energy Agency's Safety Series No. 6, "Regulations for the Safe Transport of Radioactive Materials," 1964 Revised Edition. The derivation of the groupings and the quantity limits assigned to those groupings have been published by the United Kingdom Atomic Energy Authority in its Health and Safety Branch Report AHSB (RP) R 23, dated 1963, by K. T. Aspinall and A. Fairbairn. This document is available from the Authority Health and Safety Branch, United Kingdom Atomic Energy Authority, 11 Charles II Street, London, S.W.1.

Published simultaneously with proposed 10 CFR Part 71 on December 21, 1965, were certain proposed amendments to 10 CFR Parts 30 and 70 (30 F.R. 15748), the basic licensing regulations for byproduct and special nuclear material, respectively, containing a reference to Part 71. Those amendments are no longer considered necessary and that notice of proposed rule making is, accordingly, withdrawn.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following revision of 10 CFR Part 71 is published as a document subject to codification, to be effective 30 days after publication in the FEDERAL REGISTER.

33 FR 17621
Published 11/26/68
Effective 12/31/68

Miscellaneous Amendments

On July 22, 1966, the Atomic Energy Commission published in the FEDERAL REGISTER (31 F.R. 9941) regulations for the packaging of fissile material and large quantities of licensed radioactive material, 10 CFR Part 71. The explanatory statement indicated the relationship of those regulations to the safety regulations of the Interstate Commerce Commission (ICC). Among other things, the regulations of the ICC under the Transportation of Explosives and Other Dangerous Articles Act prescribed the conditions of transport for shipments prepared in accordance with 10 CFR Part 71.

On April 1, 1967, the functions of the ICC under the Transportation of Explosives and Other Dangerous Articles Act were transferred to the Department of Transportation (DOT). The DOT has continued to apply the former ICC regulations pertaining to safety in the transportation of radioactive materials; those regulations are now known as the DOT's Hazardous Materials Regulations (49 CFR Parts 170-190, 14 CFR Part 103).

On January 20, 1968, the DOT published in the FEDERAL REGISTER (33 F.R. 750) for comment, as Notice 68-1, Docket No. HM-2, a proposed major revision of its regulations for transporting radioactive material. The DOT has given due consideration to the numerous comments received and, after consultation with the AEC and the atomic energy industry, has made modifications in the proposed requirements. On October 4, 1968, the DOT published in the FEDERAL REGISTER (33 F.R. 14918) a revision of its regulations pertaining to safety in transport of radioactive material, authorizing compliance on publication and making the amendments effective on December 31, 1968. The changes in the Commission's 10 CFR Part 71 set out below will conform 10 CFR Part 71 with the revision of the DOT regulations. Since the revision of the DOT regulations was published for public comment, the Commission has found that good cause exists for omitting notice of proposed rulemaking and public procedure thereon with respect to the following changes to 10 CFR Part 71, to correspond to the revision of the DOT regulations, as unnecessary.

One change in the DOT regulations which directly affects AEC licensees is the change from a limit of 40 radiation units to a maximum transport index of 50 in a single vehicle or storage area. To implement that change, all existing licenses which authorize Fissile Class II packages are amended by a new § 71.14 to increase the minimum number to be placed on each Fissile Class II packaged by a factor of 1.25. All holders of such licenses will receive individual notification of this amendment.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of the United States Code, the following amendments of 10 CFR Part 71 are published as a document subject to codification, to be effective December 31, 1968. Compliance with these amendments is authorized on and after the date of publication in the FEDERAL REGISTER.

37 FR 3985
Published 2/25/72
Effective 3/26/72

Miscellaneous Amendments to Chapter

See Part 20 Statements of Consideration.

38 FR 10437
Published 4/27/73
Effective 6/30/73

PART 71 • STATEMENTS OF CONSIDERATION

Approval of Type B, Large Quantity, and Fissile Material Packagings

On November 20, 1971, the Atomic Energy Commission published in the FEDERAL REGISTER (36 FR 22134) proposed amendments to 10 CFR part 71 of its regulations. The proposed amendments would provide a means for implementing the transfer of the approval of type B packagings from the Department of Transportation (DOT) to the AEC (in its regulatory function) by adding to part 71 standards and requirements for AEC approval of type B packagings, and procedures for obtaining AEC regulatory staff approval of type B, large quantity, and fissile material packagings. The transfer of the approval function for packages used by license-exempt AEC contractors is being implemented by a change in AEC manual, chapter 5201. Proposed amendments to DOT regulations, published concurrently, would require AEC approval of packagings, other than specification packagings prescribed in the DOT regulations and packagings approved by a foreign national competent authority under the 1967 regulations of the International Atomic Energy Agency, used to ship quantities of fissile material which exceed the small quantities specifically exempted by DOT regulations or to ship quantities of other radioactive material which exceed type A quantities, as defined in DOT regulations.

After consideration of the comments received and other factors involved, the Commission has adopted the amendments published for comment with the following changes:

1. The definition of "Type A quantity" in § 71.4(q) has been modified to limit Californium-252 in special form to 2 curies instead of 20 curies, to conform to that limit recently introduced into DOT regulations.

2. The general license provided in § 71.12 for shipment in DOT specification containers and in packages licensed for use by licensees has been amended to include packaging approved by a foreign national competent authority. The amendment to the DOT regulations, to be made effective concurrently, requires that packages approved by a foreign competent authority be revalidated by DOT before use in the United States.

3. In § 71.10 the period during which persons are exempted from the requirements for an AEC approval for Type B packages being used under a DOT special permit has been lengthened from 3 to 6 months after the effective date of the amendments.

Other minor corrective and editorial changes have been made.

The amended regulation permits uninterrupted use of type B containers approved under DOT special permits. Pursuant to § 71.10, an AEC licensee using a type B container under a valid DOT special permit is allowed to use that container until the AEC acts on an application for license submitted within 6 months of the effective date of the amendments or prior to the date on which the special permit expires, whichever is later. The corresponding DOT amendments, published February 14, 1973 (38 FR 4396), authorize the use of AEC-approved packagings, and provide that special permits issued by DOT will continue in effect until their stated expiration date.

AEC approval of packagings will consist of: (1) A license or license amendment issued under part 71, (2) an administrative approval issued to AEC license-exempt contractors in accordance with standards and procedures published in the AEC manual, or (3) an approval issued by the AEC's Directorate of Licensing to persons subject to DOT jurisdiction who are not AEC licensees. The latter category includes agreement State licensees, and persons who ship type B quantities or large quantities of radium.

To obtain AEC approval, all persons, other than AEC license-exempt contractors, are required to submit an application to the Chief, Transportation Branch, Directorate of Licensing, U.S. Atomic Energy Commission, Washington, D.C. 20545. The contents of the application are set forth in §§ 71.21, 71.22, 71.23, and 71.24 of 10 CFR part 71. AEC license-exempt contractors must apply for approval in accordance with the provisions of the AEC manual, chapter 5201.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, part 71, are published as a document subject to codification to become effective June 30, 1973.

39 FR 20960
Published 6/17/74
Effective 7/17/74

Form for Shipping Plutonium

On August 1, 1973, the Commission published in the FEDERAL REGISTER a notice of proposed rulemaking (38 FR 20482) that would have required that all plutonium in excess of twenty curies per package be shipped as a solid material contained within a "special form" capsule placed within a package meeting the conditions for normal form material. The effective date proposed was three years after adoption of the amendment. All interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendment within 60 days after publication of the notice of proposed rulemaking in the FEDERAL REGISTER. After careful consideration of the comments received and other factors involved, the Commission has adopted the amendments as published for comment with the following changes:

(1) The proposed requirement that the inner containment vessel meet the "special form" capsule requirement has been replaced with a requirement that the inner containment vessel must maintain its integrity after the entire package has been subjected to the normal and accident test conditions prescribed by Part 71. The effect of the amended provisions is still to require double containment of the contents. A number of commenters expressed the view that while double containment of plutonium is an important safety objective, a requirement that the inner container meet the stringent performance specifications required of a "special form" capsule was unnecessary. The Commission considers it most important that solid form plutonium be doubly contained and that both barriers in the packaging maintain their integrity under normal and accident test conditions. The present packaging required for normal form material provides the outer barrier. In specifying the "inner barrier" in the proposed rule, the Commission proposed a form of encapsulation that was already defined in Part 71, with corresponding performance specifications. Since the inner containment requirements are intended to take into account the fact that the plutonium may not be in a "nonrespirable" form, the Commission has concluded that if it can be demonstrated that the inner container will maintain its integrity in the packaging after the package is subjected to the normal and accident test conditions, sufficient protection will be afforded.

(2) Solid plutonium in the following forms has been exempted from the double containment requirements: (a) Reactor fuel elements; (b) metal or metal alloy; and (c) other plutonium bearing solids that the Commission determines suitable for such exemption. Since the double containment provision compensates for the fact that the plutonium may not be in a "nonrespirable" form, solid forms of plutonium that are essentially nonrespirable should be exempted from the double containment requirement. Therefore, it appears appropriate to exempt from the double containment requirements reactor fuel elements, metal or metal alloy, and other plutonium bearing solids that the Commission determines suitable for such exemption. The latter category provides a means for the Commission to evaluate, on a case-by-case basis, requests for exemption of other solid material where the quantity and form of the material permits a determination that double containment is unnecessary.

(3) The implementation period has been extended from three to four years. Many comments suggested that the proposed three-year implementation period was not long enough, considering the necessary plant design effort, licensing, and construction of required facility modifications necessary to meet the requirements. Additional time was requested. The Commission believes that the increases in the amounts of plutonium to be shipped and the changing characteristics of plutonium will not change significantly in the next four years when compared to years beyond 1978. The four-year period for compliance should give the nuclear industry a sufficient period for implementation.

The Commission has determined, pursuant to guidelines of the Council on Environmental Quality, that this rulemaking action will not significantly affect the quality of the human environment and, accordingly, makes this Negative Declaration on environmental impact. The staff's environmental Impact Appraisal supporting this declaration is available for public inspection at the

Commission's Public Document Room, 1717 H Street, NW., Washington, D.C.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 71, are published as a document subject to codification.

39 FR 22131
Published 6/20/74
Effective 6/20/74

Broadening of General License Conditions

In the revised Memorandum of Understanding between the Atomic Energy Commission and the Department of Transportation dated March 22, 1973, the Commission agreed to evaluate package designs for fissile material and Type B and large quantities of radioactive material, and if found satisfactory, to issue approvals directly to the persons requesting the evaluation. The Department of Transportation in its regulations has authorized the use of such AEC-approved packages by any person, without the need for a DOT Special Permit, provided the packages meet certain specified requirements.

The purpose of the amendments which follow is to authorize persons holding a general or specific AEC license to use, under a general license, package designs for which a certificate of compliance or other approval has been issued by the Commission's Directorate of Licensing. A certificate of compliance would be the form by which a package approval would be issued to persons, such as Agreement State licensees, for whom AEC does not issue licenses or license amendments. This change will eliminate duplicate applications for package approvals and issuance of duplicate package approvals to licensees for package designs which are evaluated pursuant to the Memorandum of Understanding between the Atomic Energy Commission and the Department of Transportation without affecting safety in the use of the package.

The general license does not authorize the receipt, possession, or use of byproduct, source or special nuclear material; such authorization must be obtained pursuant to the appropriate regulations (10 CFR Parts 30 to 36, 40 or 70). The general license also does not authorize the transportation of licensed material. Transportation by private, common, or contract carriers is subject to the requirements of the Department of Transportation (49 CFR Parts 170 to 179 and 397; 14 CFR Part 103; 46 CFR Part 146) either directly or through requirements in AEC or state regulations.

Since the amendments set forth below relate solely to minor procedural matters, good cause exists for omitting notice of proposed rule making, and public procedure thereon, as unnecessary. Since the amendments grant relief from restrictions under regulations currently in effect, they will become effective without the customary 30 day notice.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 71, are published as a document subject to codification.

40 FR 8774
Published 3/3/75
Effective 3/3/75

Energy Reorganization Act; Revisions to Chapter 1 to Reflect Organizational and Procedural Changes

See Part 2 Statements of Consideration.

42 FR 39364
Published 8/4/77
Effective 10/18/77
Comment Period expires 10/18/77

PART 71—PACKAGING OF RADIOACTIVE MATERIAL FOR TRANSPORT AND TRANSPORTATION OF RADIOACTIVE MATERIAL UNDER CERTAIN CONDITIONS

Quality Assurance Requirements for Transport Packages

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations for packaging of radioactive material for transportation and transportation of radioactive material. The amendments would upgrade requirements for quality assurance in the design, fabrication, assembly, testing, use, and maintenance of packagings for shipping and transporting licensed radioactive material. The amendments would also revoke, subject to a timely application for reapproval, the present authority for licensees to use certain shipping casks for solid irradiated nuclear fuel which had been approved under criteria used before the current standards in these regulations were adopted.

EFFECTIVE DATE: October 18, 1977.

NOTE.—The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for such review as may be appropriate under the Federal Reports Act, as amended, 44 U.S.C. 3512. The date on which the reporting requirement of this rule becomes effective, unless advised to the contrary, accordingly reflects inclusion of the 45-day period which that statute allows for such review (44 U.S.C. 3512(c)(2)).

FOR FURTHER INFORMATION CONTACT:

Mr. Donald R. Hopkins, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington D.C. 20555; phone 301-443-6910.

SUPPLEMENTARY INFORMATION: On December 28, 1973, the Atomic Energy Commission published in the FEDERAL REGISTER (38 FR 35490) proposed amendments to 10 CFR Part 71 of its regulations. Interested persons were invited to submit written comments and suggestions. Further action on the proposed rule was delayed almost three years while developing acceptable methods of implementation.

COMMENTS RECEIVED

COMMENTS ON PROPOSED RULE

Comments were received from ten persons who manufacture or use the shipping packages which were the subject of the proposed amendments, and from one state regulatory agency. Most of the comments urged clarification, modification, or deletion of specific provisions of the proposed rule.

COMMENTS ON PROPOSED SPECIFIC TESTS

More than half the comments were concerned with the proposed provisions of § 71.53, "Initial determinations and tests." The comments were varied and concerned the clarity and appropriateness of the proposed requirements and their applicability to certain types of packages. The Commission recognizes the validity of those comments and has not adopted those requirements in the amendments which follow. Further consideration will be given to such requirements after experience is gained in their application as license conditions in appropriate cases.

A number of comments were submitted with respect to the proposed addition of specific tests in § 71.54, "Routine determinations." Many of these are reflected in the amendments adopted. Some comments noted that certain tests, and in particular those relating to pressure relief devices, should be tailored to the package design. The wording of § 71.54(h) and of "quality assurance program bases" in section 2 of Appendix E permit the tests and determinations to be fashioned around the package design and the safety function which the design features provide.

COMMENTS ON IDENTIFYING RESPONSIBLE INDIVIDUAL

Some comments questioned the need to submit the title and qualifications of the individual in the applicant's organization who is responsible for assuring that packages have been prepared in accordance with all applicable requirements, as would have been required by proposed § 71.24(b). Since it is recognized that a licensee's entire management is responsible for licensed activities, the requirement has been deleted.

COMMENTS ON "GRANDFATHER CLAUSE" IN § 71.41

A number of commenters misunderstood the proposed amendment of § 71.41 and judged it to retroactively impose quality assurance requirements, including records, on the construction of irradiated fuel casks fabricated during the 1961–1967 period. This is not the purpose of the amendment. Present § 71.41 has provided a "grandfather clause" authority for the use of irradiated solid nuclear fuel casks which were constructed prior to 1967 before the current packaging standards became effective. The proposed changes to § 71.41 would phase out this "grandfather clause" authority. The proposed changes deal with the design characteristics of these old casks and the extent to which those characteristics satisfy the present packaging standards. The proposed changes are unrelated to the proposed quality assurance provisions in the notice of proposed rule making.

COMMENTS ON RESPONSIBILITY FOR QUALITY ASSURANCE

A number of commenters suggested that clarification be provided as to whether the package manufacturer or the licensee is responsible for providing information to the Commission on specific aspects of quality assurance, and as to who is responsible for carrying out those specific aspects of quality assurance in the manufacture and use of the package.

The licensee who is the applicant for the package approval provides the descriptions of quality assurance programs governing the manufacture and use of the package. If the package is approved by the Nuclear Regulatory Commission for use in the transportation of radioactive material, a package approval is issued which incorporates the package description and identification, its safety evaluation, and a description of the applicant's specific quality assurance provisions for design, fabrication, assembly, testing, use, and maintenance of the package. In the absence of reasons to the contrary, the package approval will be issued for use by any licensee who possesses the applicable documents incorporated by reference into the package approval, who has had his general quality assurance program approved by the Commission, and who will adhere to the conditions of the package approval. The authority for any licensee to use the package once it is approved is contained in the general license in 10 CFR Part 71, § 71.12, "General License for Shipment in DOT specification containers, in packages approved for use by another person, and in packages approved by a foreign national competent authority." The general license requires that each licensee who uses the general license register his name and certain other information with the Commission prior to the first use of the package and have a quality assurance program approved by the Commission.

A licensee who uses a package under the authority of the general license in § 71.12 must comply with the provisions of the general license. One provision of the general license, as clarified by the amendments which follow, is that the licensee use approved packages only in accordance with a quality assurance program which has been approved by the Commission. Another provision of the general license is that the package be used in accordance with the terms and conditions of the package approval. Quality assurance requirements specific to the particular package design would be specified in the package approval. A licensee's quality assurance program for the use of packages in transportation would then consist of the following:

1. The general provisions which satisfy to the extent necessary each of the applicable criteria of Appendix E of Part 71. These general provisions would apply to the use, testing, and maintenance of any package (and its design and fabrication if applicable), and such general provisions would have to be approved by the Commission; and

2. The specific provisions specified or referenced in the package approval which are applicable to the particular package design.

A licensee who delivers licensed material to a carrier for transport under the authority of § 71.12 must be assured that the package is as described in the package approval, and that it is used, tested, and maintained in accordance with both the general and specific portions of the approved quality assurance program. While information may be submitted by any interested person to the Commission in support of an application for package approval, it is the licensee who delivers a package of radioactive material to a carrier who must assure himself and the Commission that the quality assurance program, on which approval of the package design is based, has been followed.

COMMENTS ON GENERAL PROVISIONS IN APPENDIX E

A number of commenters suggested changes in the provisions of proposed Appendix E to Part 71, which contains the general provisions relative to all package quality assurance programs. It was observed that proposed Appendix E was patterned closely after Appendix B of 10 CFR Part 50, "Licensing of Production and Utilization Facilities." Comments were offered that transportation packages differ in many ways from nuclear facilities, and that the same quality assurance provisions should not be applied to both. However, the quality assurance provisions of proposed Appendix E are general in nature and with minor modifications are applicable to a wide variety of types of quality assurance programs. Flexibility in applying the provisions of Appendix E, section 2, "Quality Assurance Program" has been emphasized by the second paragraph of that section dealing with the importance, complexity, and other characteristics of the package or component to be controlled. While some suggested clarifications of Appendix E have been adopted, the general requirements of that Appendix, parallel to the general requirements of Appendix B of Part 50, have been retained. (Under § 71.51(d), a licensee may use a Commission approved quality assurance program, based on Appendix B of 10 CFR Part 50, which is established, maintained and executed with regard to transport packages.) As with the Part 50 requirements, more specific package quality assurance guidelines will be developed and published in the form of Regulatory Guides, beginning in FY 78. The comments which have been offered with respect to Appendix E will be further considered in connection with these guidelines.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 71, are published as a document subject to codification. The Commission invites all interested persons who desire to submit written comments or suggestions in connection with the amendments to send them to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, by October 18, 1977. Consideration will be given such submissions with the view to possible further amendments. Copies of comments may be examined in the Commission's Public Document Room at 1717 H Street NW., Washington, D.C.

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43 FR 27174
Published 6/23/78
Effective 6/23/78

PART 71—PACKAGING OF RADIOACTIVE MATERIAL FOR TRANSPORT AND TRANSPORTATION OF RADIOACTIVE MATERIAL UNDER CERTAIN CONDITIONS

Extension of the Implementation Period for QA Program Requirements

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Effective rule.

SUMMARY: The U.S. Nuclear Regulatory Commission extends until January 1, 1979, the date for filing a description of a quality assurance program for transport packages. The original deadline of July 1, 1978 appeared in amendments published in the FEDERAL REGISTER on August 1, 1977. This extension is in response to requests from interested persons to delay implementation of the quality assurance criteria.

EFFECTIVE DATE: June 23, 1978.

FOR FURTHER INFORMATION CONTACT:

Robert J. Doda, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555, phone 301-443-6910.

SUPPLEMENTARY INFORMATION: On August 4, 1977, the Nuclear Regulatory Commission published effective amendments to its regulations in 10 CFR Part 71. These amendments included a requirement to file a description of a quality assurance (QA) program satisfying the criteria of Appendix E by July 1, 1978 (42 FR 39364). Although written comments or suggestions to these amendments were invited at that time, none were received.

The Commission has since received letters from interested persons questioning the applicability of these QA requirements to Agreement State licensees. Also, the Commission has received requests to delay implementation of the Appendix E criteria.

The Commission is in the process of addressing the question of the applicability of these QA requirements to Agreement State licensees. Because of this effort, and having considered other factors involved, the NRC has determined that a delay of 6 months in implementing the Appendix E criteria appears justified. A short-term delay will have no significant adverse effect on public health and safety because of existing specific QA provi-

sions in Part 71 and the requirement for a QA program, which the staff imposes for approval of packagings for shipping irradiated fuel, high level waste, and plutonium. Accordingly, the Commission is amending its regulations by extending the date for filing a description of a QA program in § 71.51 to January 1, 1979.

Because this amendment relates solely to procedural matters, the Commission has found that good cause exists for omitting notice of proposed rule making, and public procedure thereon, as unnecessary. Since the amendment relieves licensees from restrictions under regulations currently in effect, it may become effective upon publication in the FEDERAL REGISTER.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendment to Title 10, Chapter I, Code of Federal Regulations, Part 71 is published as a document subject to codification.

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44 FR 63083
Published 11/2/79
Effective 12/3/79

10 CFR Part 71

Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions; Shipment in Accordance With Department of Transportation Regulations

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Effective rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations for packaging and transportation of radioactive material. The amendments would require all shipments of radioactive materials made by NRC licensees, other than shipments subject to the regulations of the U.S. Postal Service, to be made in accordance with the regulations of the U.S. Department of Transportation. The regulations are being amended to allow the NRC to inspect the activities of its licensees involved with shipment of radioactive materials.

EFFECTIVE DATE: December 3, 1979.

FOR FURTHER INFORMATION CONTACT: Ralph J. Jones, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 [(301)–443–5949].

SUPPLEMENTARY INFORMATION: An increased number of shipments are being made each year of low specific activity materials and of type A quantities of radioactive materials. This trend is expected to continue in the future. Recently, there has also been a growing number of incidents involving the shipment of these materials. The basic cause of many transportation incidents can be attributed to the use of defective shipping containers or to improper loading and preparation of packages for shipment. After consulting with the U.S. Department of Transportation, the U.S. Nuclear Regulatory Commission has determined that there is a need to further assure that these shipments are being conducted in accordance with Federal regulations. Therefore, the NRC is amending 10 CFR Part 71 to require that all shipments of licensed material, except those shipments subject to the regulations of the U.S. Postal Service, be made in accordance with the regulations of the U.S. Department of Transportation. This change to the regulations which will not alter any substantive requirements will permit the NRC to inspect the activities of its licensees in this area and to take enforcement actions if warranted.

The Nuclear Regulatory Commission has overlapping authority with the Department of Transportation to regulate the transportation of radioactive materials. Because of the numerous transportation incidents that have occurred involving low specific activity and type A quantities of radioactive materials, a need exists for additional inspection and enforcement efforts to more fully assure that these shipments are made in accordance with Federal regulations. Augmenting the inspection and enforcement efforts of the Department of Transportation with those of the Nuclear Regulatory Commission will further assure that applicable Federal regulations are observed with respect to packaging and shipment of low specific activity and type A quantities of radioactive materials. In view of the foregoing and of the importance from the standpoint of the public health and safety of assuring that NRC licensees are in compliance with Federal regulations applicable to the packaging and shipment of radioactive material, the Commission has found that there is immediate need to increase the level of its inspection and enforcement activities in this area, that this change relates primarily to matters of Commission practice and procedures, and therefore, good cause exists for omitting notice of proposed rulemaking and public procedure thereon as contrary to the public interest. The amendments will become effective December 3, 1979.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Sections 552 and 553 of Title 5 of the United States Code, the following amendment to Title 10, Chapter I, Code of Federal Regulations, Part 71, is published as a document subject to codification.

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45 FR 20462
Published 3/28/80
Effective 3/28/80

10 CFR Part 71

Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions; Correction of U.S. Posta Service Regulation Reference

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Effective rule.

SUMMARY: The U.S. Nuclear Regulatory Commission is correcting its regulatory references to U.S. Postal Service regulations governing the transportation of radioactive material by the U.S. Postal Service.

EFFECTIVE DATE: March 28, 1980.

FOR FURTHER INFORMATION CONTACT: Ralph J. Jones, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 443–5946.

SUPPLEMENTARY INFORMATION: In a **Federal Register** Notice dated November 2, 1979 (44 FR 63083), reference was made to the regulations of the U.S. Postal Service in 39 CFR Parts 14 and 15. Parts 14 and 15, however, have been deleted from Title 39. This reference was a portion of Sections 71.5, "Transportation of licensed material," and 71.7, "Exemption for certain quantities," of 10 CFR Part 71, "Packaging of Radioactive Material for Transport and Transportation of Radioactive Material Under Certain Conditions."

Section 111.1 of 39 CFR Part 111, "General Information on Postal Service," provides as follows:

> *§ 111.1 Postal Service Manual: incorporation by reference of general information on postal services.*
>
> Section 552(a) of title 5, United States Code, relating to the public information requirements of the Administrative Procedure Act, provides in pertinent part that "* * * matter reasonably available to the class of persons affected thereby is deemed published in the **Federal Register** when incorporated by reference therein with the

approval of the Director of the Federal Register." In conformity with that provision, and with 39 U.S.C. section 410(b)(1), and as provided in this part, the United States Postal Service hereby incorporates by reference in this part, Chapter I of its Postal Service Manual, a looseleaf publication published and maintained by the U.S. Postal Service, Washington, D.C. 20260.

The "Postal Service Manual" is commonly referred to as the "Domestic Mail Manual." The availability of this manual is set forth in 39 CFR 111.2 which provides:

> § *111.2 Availability of Chapter I of the Postal Service Manual.*
>
> (a) Copies of Chapter I of the Postal Service Manual are available for reference and inspection upon request at the National Headquarters and regional offices of the U.S. Postal Service and at all United States Post Offices and classified stations and branches during normal business hours. Regional offices are located in New York, Philadelphia, Memphis, Chicago, and San Francisco.
>
> (b) A copy of Chapter I of the Postal Service Manual, together with each amendment of it, is on file with the Director, Office of the Federal Register, National Archives and Records Service, General Services Administration, at 1100 L Street, NW., Room 8401, Washington, D.C. 20408.
>
> (c) Copies of the entire Postal Service Manual may be purchased from the Superintendent of Documents, Washington, D.C. 20402 for $33.00. This price includes entitlement to receive, for an indefinite period, changes in the Postal Service Manual which may be published from time to time. A companion publication entitled Instructions for Mailers excerpts all portions of Chapter I which are directed to the mailing public. This publication is sold to the public on a subscription basis for $5.00 by the Superintendent of Documents.

Section 124.3, "Radioactive Material," contained within Part 124, "Nonmailable Matter—Articles and Substances; Special Mailing Rules," of the Domestic Mail Manual, incorporates by reference United States Postal Service Publication 6, a ten page pamphlet entitled "Radioactive Materials." The provisions of this document track the U.S. Department of Transportation (DOT) regulations governing the transportation of limited quantities of radioactive materials and are periodically revised to be consistent with the DOT regulations on this subject. Copies of Publication 6 are available from the U.S. Postal Service, Eastern Area Supply Center, Somerville, New Jersey 08877.

Accordingly, §§ 71.5 and 71.7 of 10 CFR Part 71 are being amended to revise their reference to the regulations of the U.S. Postal Service to read "Postal Service Manual (also known as Domestic Mail Manual), section 124.3, incorporated by reference, 39 CFR 111.1 (1974)." Inasmuch as these amendments are of a minor, corrective nature, good cause exists for omitting notice of proposed rulemaking, and public procedure thereon, as unnecessary, and for making the amendments effective on March 28, 1980.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments of Title 10, Chapter 1, Code of Federal Regulations, Part 71, are published as a document subject to codification.

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47 FR 596
Published 1/6/82
Effective 7/6/82

10 CFR Part 71

Advance Notification to States of Transportation of Certain Types of Nuclear Waste

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Commission is amending its regulations to implement a federal statute which requires the NRC to promulgate regulations providing for timely notification to the governor of any state prior to transport of certain types of nuclear waste, including spent fuel, to, through, or across the boundary of that state. This notification provides the governor advance information, not otherwise available to the governor, related to nuclear waste transportation in his state. Shipment of spent fuel is covered under a separate amendment to the Commission's regulations on the physical protection of plants and materials since information regarding these shipments contains sensitive safeguards data which must be protected.

EFFECTIVE DATE: July 6, 1982.

FOR FURTHER INFORMATION CONTACT: John P. Roberts, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Telephone: 301-427-4205).

SUPPLEMENTARY INFORMATION:

Background

Section 301(a) of Pub. L. 96–295 requires the Nuclear Regulatory Commission to

> Promulgate regulations providing for timely notification to the Governor of any State prior to the transport of nuclear waste, including spent nuclear fuel, to, through, or across the boundaries of such State. Such notification requirement shall not apply to nuclear waste in such quantities and of such types as the Commission specifically determines do not pose a potentially significant hazard to the health and safety of the public.

On December 9, 1980, the NRC published a Federal Register notice (45 FR 81058) inviting public comments on a proposed rule providing for advance notification to governors of states of the transportation of nuclear waste. The 90-day comment period expired March 9, 1981. Copies of the proposed rule with a request for comments were also sent to state governors. The final rule is essentially the same as the proposed rule except that its scope has been restricted to cover only large quantity (defined in § 71.4(f) as exceeding Type B radioactivity limits) shipments of radioactive waste and spent fuel not covered under advance notification provisions of 10 CFR Part 73.

The Rule

The Commission and the Department of Transportation (DOT) have established packaging standards for packages for various quantities of radioactive material to provide for adequate safety of the public. There are two basic categories of packages, Type A and Type B. Type A packages must be designed to withstand the rigors of normal transport but are not designed to withstand transport accidents. Therefore, the quantities and types of radioactive material which may be transported in Type A packages are limited so that, if material release occurs in an accident, no significant hazard to public health and safety would result. Type B packages, which contain larger quantities of radioactive material, are designed to withstand both the normal conditions of transport and specified accident conditions. While limits are set for Type B quantities of radioactive materials, there are no quantity limits for radioactive material per se in Type B containers. Accordingly, quantities larger than Type B, designated large quantities, may also be transported in Type B containers. However, regulatory requirements, which set limits on such factors as weight, volume, decay heat generation, and criticality control, place practical restrictions on the contents of Type B containers.

The NRC has recently affirmed the adequacy with respect to safety of existing 10 CFR Part 71 in its Withdrawal of Advance Notice of Rulemaking, "Radioactive Material Packaging and Transportation by Air," (46 FR 21619, April 13, 1981). In reaching this conclusion, it cited NUREG–0170, the Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes, which, after considering the types and quantities of materials shipped in Type A and Type B and large quantity packaging, states that the potential risk of transportation is small.

Radioactive material shipments, including spent fuel shipments, were considered in NUREG–0170 and are subject to the NRC regulations in 10 CFR Part 71 which the Commission found to be adequate with respect to transportation safety. However, the Congress in Section 301(a) of Pub. L. 96–295 has specifically required prenotification for spent fuel shipments. Thus, while Congress leaves to the Commission's judgment, on the basis of potential significant hazard to public health and safety, which types of nuclear waste may be excluded from prenotification, it has also made it clear that at least one type of material, spent fuel, is not to be excluded. Shipments of spent fuel are almost all large quantity (defined in § 71.41(f) as exceeding Type B radioactivity limits) shipments. Almost all spent fuel shipments will contain in excess of 100 grams mass of spent fuel and will be covered under the amendment to 10 CFR Part 73.

At the present time, all large quantity shipments of radioactive waste, excluding spent fuel, are of low level waste. In the future, should reprocessing of power reactor spent fuel resume, shipments of solidified high level waste would be expected to occur. Such shipments would be expected to be in large quantities, and the characteristics of such high level waste would be similar, in terms of radioactivity and heat load, to spent fuel.

After reviewing the data on radioactive waste shipments which is currently available, the Commission has determined that its conclusion on the adequacy of existing 10 CFR Part 71 with respect to the safety of radioactive material transportation should be reaffirmed. It also has determined that, in accordance with the intent of Congress in Section 301 of Pub. L. 96–295, for shipments of radioactive waste which include large quantities of radioactive waste and spent fuel required to be shipped in Type B packaging, prenotification shall be required. Shipments of all other types of radioactive materials do not pose a potentially significant hazard to the public health safety, and such types of materials are excluded from shipment prenotification requirements.

The NRC also recognizes that, while the term "large quantity" may be eliminated as a result of proposed rulemaking to revise regulations for the transportation of radioactive material to make them compatible with those of the International Atomic Energy Agency ("Packaging of Radioactive Material for Transportation and Transportation of Radioactive Material Under Certain Conditions, Compatibility with IAEA Regulations," 44 FR 48234, at 48236, August 17, 1979), this revision will address types and quantities of radioactive materials presently covered under these regulations so that no purpose would be served at this time in attempting in this rulemaking to separately redefine the term "large quantity" for advance notification.

In accordance with the intent of Congress and consistent with the Commission's determination that shipments of radioactive waste do not pose a potentially significant hazard to the health and safety of the public, the Commission is amending its regulations in 10 CFR Part 71 to require NRC licensees to notify state governors in advance of all large quantity shipments of radioactive waste and of spent fuel not covered under the amendment to 10 CFR Part 73 (generally 100 grams mass or less) required to be shipped in Type B packaging.

Advance notification requirements for spent fuel shipments in excess of 100 grams mass are being addressed by the Commission in a separate rulemaking action in 10 CFR Part 73 for safeguards purposes. A companion notice covering this action is published elsewhere in this issue of the Federal Register. Shipments of large quantities (defined in § 71.4(f) as exceeding Type B radioactivity limits) of radioactive waste, including spent fuel not subject to 10 CFR Part 73 (approximately 100 grams mass or less) are covered in this amendment to 10 CFR Part 71.

The amendment to 10 CFR Part 71 will require licensees to supply the following information: the name, address, and telephone number of the shipper, carrier and receiver of the shipment, a description of the material to be transported, point of origin, estimated period of departure, estimated periods of arrival at state boundaries, the destination of the shipment, the estimated period of arrival, and a point of contact for current shipment information. This information would be provided by mail postmarked at least seven days or delivered by messenger at least four days in advance of the estimated period of departure, to the offices of the governors of affected states or their designees. A new information requirement contained in a recent DOT rulemaking ("Radioactive Material; Routing and Driver Training Requirements," 46 FR 5298, January 19, 1981) may lessen the impact of this amendment since shippers are on notice that they may need to develop procedures for reporting to DOT and can arrange to extend this effort to include NRC. The DOT Final Rule "Radioactive Materials; Routing and Driver Training Requirements," would require that route plans for large quantity shipments be submitted to the DOT Materials Transportation Bureau (49 CFR 173.22(c) 46 FR 5298 at 5316, January 19, 1981).

This final rule, unlike the DOT Final Rule (46 FR 5298), affects only NRC licensees, resulting, at the outset, in a situation where governors will not receive notification concerning a fraction of the total number of shipments, since some shipments of interest will be made by Agreement State licensees. This situation was anticipated, as noted in the additional views of several representatives (opposed to the requirement of section 301) appearing at page 37 of H. Rept. 96–194, Part 2 (June 29, 1979):

> Further, the NRC currently licenses possession of radioactive materials in only 25 [now 24] states. Under agreements between the NRC and the remaining states, those states would also have to implement regulations under this amendment.

The Comments

NRC received 62 letters containing more than 300 comments on the proposed rule. Comments were received from these entities as follows:

	Commentors
State governors or state agencies	21
Individuals from public sector	19
Nuclear industry	18
Federal agencies	3
City mayor	1
Total	62

The comments covered three general categories: (1) the scope of the rule; (2) its impacts and (3) administrative considerations.

1. *Scope of the Rule. a. Contents of packages subject to prenotification requirement.* Comments received ranged from favoring inclusion of almost all radioactive wastes for prenotification to not promulgating any amendment at all.

Initially, the NRC contemplated that all waste required to be shipped in Type B packaging should be included. Type B packaging designs are required to be accident resistant because Type B quantities of radioactive wastes are potentially a more significant hazard to the public health and safety if they are not adequately contained. However, NRC regulatory requirements for Type B packaging have been found to be adequate. As has been noted herein, the NRC has recently affirmed the adequacy with respect to safety of Type B packaging in a withdrawal of Advance Notice of Rulemaking, "Radioactive Material; Packaging and Transportation by Air" (46 FR 21619, April 13, 1981). In reaching this conclusion, it cited NUREG–0170, the Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes, which, after considering the types and quantities of materials shipped in Type A and Type B and large quantity packaging states that the potential risk of transportation is small. Upon further consideration and review of the currently available data on radioactive waste shipments, the Commission has determined that shipments of radioactive waste do not pose a potentially significant hazard to the health and safety of the public. However, Congress has specifically required prenotification of shipments of spent fuel, which are almost always large quantity shipments, for prenotification. Accordingly, the Commission is amending the regulations in 10 CFR Part 71 to require NRC licensees to notify state governors or their designees in advance of all large quantity shipments of radioactive waste and of spent fuel not covered under the amendment to 10 CFR Part 73 required to be in Type B packaging. In the opinion of the Commission, this amendment is consistent with the intent of Congress which specifically included spent fuel, almost always shipped in large quantities, in the prenotification provisions of section 301(a) of Pub. L. 96–295, but also authorized the Commission to determine which types of radioactive waste may be excluded from prenotification requirements.

The NRC also believes that the varying concerns of the states can best be addressed by limiting NRC prenotification requirements to large quantity shipments of radioactive waste, including spent fuel. In its recent June 8, 1981 meeting, the State Planning Council on Radioactive Waste Management endorsed prenotification of high-level or large quantity shipments of radioactive materials, including spent fuel.

Finally, after consideration of comments, the NRC believes that inclusion of all shipments of Type B packaged waste is likely to cause an unwieldy paper management problem and reduce the utility of the notification system. For this reason the NRC determines that limiting advance notification to large quantity shipments will significantly reduce an undue administrative burden of notification on states and shippers. The number of shipments expected under this more restricted rule is a few hundred annually and will more likely be less than one percent of the 24,000 Type B shipments per year previously estimated in the proposed rule.

b. *Emergency preparedness concerns.* These issues are already being addressed outside this rulemaking action and therefore do not require further discussion at this time. As the Commission noted on April 13, 1981 in its Withdrawal of Advance Notice of Rulemaking (46 FR 21619),

> In another separate action, the NRC, in cooperation with the Federal Emergency Management Agency and other federal agencies is currently developing guidance material to be used by state agencies in developing emergency response plans for transportation accidents involving radioactive material.

c. *State and local authority.* Since the advance notification rule is solely informational and does not in any way preempt existing state or local authority with respect to regulation of transportation of radioactive materials, the concerns raised on the impact of the rule on state and local authority, particularly on the issue of preemption, are not germane. With respect to concerns over the failure to include Agreement State licensees under prenotification requirements, Congress did not choose to amend the Atomic Energy Act of 1954, as amended, to subject Agreement State licensees to this requirement. However, NRC plans to work with Agreement States to make regulations equivalent to this rule a matter of compatibility.

2. *Impact.* Concern was expressed over the potential impacts that the proposed amendment could have on the public health and on the safety of radioactive materials shipping. Such comment varied considerably because of widely differing views of commenters as to the present dangers to the public of radioactive waste shipping and whether a greater degree of regulation would enhance or diminish public safety. Concern was also expressed over potential problems for shipping accruing from the implementation of the proposed amendment. Potential problems raised included additional radiation exposure to the public, impeding efficient shipping, the financial and administrative burden of reporting on shippers, carriers, state agencies, and safeguards. In general, these comments indicated concern that the impact of the amendment was negative. However, with respect to safeguards, inclusion of all Type B shipments under proposed § 73.37(f) was also advocated. A third area of concern was that NRC regulations be coordinated with the Department of Transportation. This concern was generally directed toward the prospect of alleviating the administrative burden resulting from federal regulations on shipping.

The NRC has already addressed the issue of shipment safety in determining what types of wastes should be excluded from prenotification. In accordance with the provisions of section 301(a) of Pub. L. 96–295 only shipments of large quantities of radioactive waste, including spent fuel required to be shipped in Type B packaging are subject to the prenotification requirement. Under existing transportation regulations, such shipments are placarded and information on them is not restricted from the public. Moreover, this regulation does not preempt existing state and local authority over transportation. The NRC has therefore concluded that requiring prenotification for large quantity shipments of spent fuel and radioactive waste will have negligible negative impacts on public health and safety and efficient shipping.

The Commission also believes that the exclusion from the prenotification requirement of all radioactive waste shipments except large quantities required to be shipped in Type B packaging, including spent fuel not covered under the amendment on advance notification to 10 CFR Part 73, will significantly reduce the financial and administrative burden on states, carriers, and shippers of such notification. Based on estimates contained in NUREG–0170, the Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes, in 1985 shipments of Type B wastes are expected to number 24,000 while large quantity shipments are only expected to number, at most, a few hundred annually and more probably less than one percent of the 24,000 Type B waste shipments.

With respect to coordination with the Department of Transportation, DOT announced in the preamble to its final rule on "Radioactive Materials; Routing and Driver Training Requirements" (46 FR 5298, January 19, 1981) that,

> In order to prevent a possibly severe inconsistency between NRC and DOT transportation requirements, the DOT will have to wait at least until final rules are issued for NRC licensees before undertaking a rulemaking proceeding to consider specific prenotification requirements for other types of large quantity shipments.

3. *Administrative Considerations.* A number of changes which were suggested or raised for consideration in comments may be categorized as administrative in nature. These included: inclusion of route information, use of generic reporting, creation of a federal clearing-house for notification, designation of a state agency addressee for notification receipt other than the office of the governor, restrictions on notification information to be supplied, clearer definition of carrier and licensee responsibilities, requesting state acknowledgement of notification before a shipment could enter a state, additional documentation requirements related to notification, and changes in the period required prior to shipment.

With one exception, notification to a governor's designee, which will serve to facilitate state response, these comments have not been adopted in this rule. Three of these comments, inclusion of route information, use of generic reporting, and the creation of a federal clearinghouse for reporting information were substantially resolved in the recent DOT rulemaking on "Radioactive Materials; Routing and Driver Training Requirements" (46 FR 5298, January 19, 1981), the preamble to this final DOT rule states in part,

> Also a provision is added to § 173.22(c) to require shippers of a large quantity package of radioactive materials to file a copy of the route plan prepared for that shipment within 90 days following the shipment with DOT. The Department intends to consolidate the information contained in the route plans and supply it to interested parties.

This effort by DOT to obtain post-shipment information is likely to provide greater accuracy in such reporting, and any NRC efforts would be largely duplicative.

The Commission believes that proposals on restricting information to be supplied in reporting would be confusing and burdensome. Provision for some state governors to decline to receive prenotification would also be a burden to licensees. Governors are not required to take any action on prenotifications received and are free to dispose of them since they will not contain protected information that Part 73 prenotifications will. Provision for receipt of partial information, which was also suggested, would result in increased paperwork since, for a single shipment, different amounts of information would be required for different states and militate against use of a standard reporting form. As already noted, summary information is expected to be available from DOT as a result of its highway routing rule. In addition, NRC staff plans to forward to DOT advance notifications received for DOT's data base. Another restriction suggested, requiring a state to reapply periodically for continued receipt of notification, does not comport with congressional intent in section 301 of Pub. L. 96–295.

The text of § 71.5a makes it clear that responsibility for advance notification of a shipment of nuclear waste, as defined in § 71.4(r), rests with the licensee, i.e., the shipper, not the carrier. Requiring shippers to await state acknowledgement of notifications would likely impede interstate shipping and could burden interstate commerce by effectively excluding shipments from states which did not choose to establish means of promptly acknowledging such notifications. With regard to suggestions that would require additional documentation from licensees, such as, for example, requiring licensees to document telephoned notification changes by letter, the NRC concludes that the additional burden on industry and states is not worth such effort. No change has been made in the period of time within which advance notification of a shipment must be given. A shorter period would tend to reduce the effectiveness of notification by mail and a longer period does not seem necessary. Basing the period on arrival at individual state boundaries rather than shipment departure would result in multiple and differing notifications for a single shipment which would require additional effort and possibly contribute to confusion in reporting.

Environmental Impact Statement

In accordance with 10 CFR 51.5(d)(3), an environmental impact statement, negative declaration, or environmental impact appraisal need not be prepared in connection with this rulemaking action because the amendments are nonsubstantive and insignificant from the standpoint of environmental impact.

Paperwork Statement

The Nuclear Regulatory Commission has submitted this rule to the Office of Management and Budget for such review as may be appropriate under the Paperwork Reduction Act, Pub. L. 96–511. The SF-83, "Request for Clearance," Supporting Statement, and other related documentation submitted to OMB have been placed in the NRC Public Document Room at 1717 H Street NW., Washington, DC 20555 for inspection and copying for a fee.

After careful consideration of the comments on the proposed rule, the Commission, for the reasons set out in the preamble and pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, Section 301 of Pub. L. 96–295 (94 Stat. 789–790), and Sections 552 and 553 of Title 5 of the United States Code, has adopted the following amendments to 10 CFR Part 71 which are published as a document subject to codification.

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47 FR 34970
Published 8/12/82
Effective 8/12/32

10 CFR Part 71

General License for Shipment in Packages Approved for Use by Another Person

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations concerning the transportation of radioactive material. Specifically, it is changing the recordkeeping requirements of the general license authorizing an NRC licensee to use a package that the Commission has previously evaluated and specifically authorized another licensee to use. Previously, as a condition of the general license, the general licensee was required to possess copies of all documents referred to in the Commission's specific authorization. This amendment will require the general licensee to possess only those drawings and other documents relating to the use and maintenance of the packaging and to the actions to be taken prior to shipment.

EFFECTIVE DATE: August 12, 1982.

FOR FURTHER INFORMATION CONTACT: Mr. Donovan A. Smith, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone (301) 443–5825.

SUPPLEMENTARY INFORMATION: On May 18, 1982, the Nuclear Regulatory Commission published in the Federal Register (47 FR 21269) a notice of proposed amendment to 10 CFR Part 71 to modify the recordkeeping requirements of the general license in § 71.12 for shipment in packages specifically approved by the Commission or by a foreign national competent authority. The amendment to § 71.12 pertains only to the documents which users of the general license must possess.

Background

In 1970 the U.S. Atomic Energy Commission (AEC) amended its transportation regulations to provide a general license for persons shipping licensed material in packages which the Commission had previously evaluated, found to meet the standards of Part 71, and specifically authorized another licensee to use.

The general license procedure adopted in 1970 provided authority for any AEC licensee to use any package which had been specifically licensed by the AEC if the general licensee (1) had a copy of the specific licensee and related documents authorizing use of the type of package, (2) complied with the terms and conditions of the specific license, and (3) notified the AEC of the specific licensee's name and license number and the model number of the packaging.

The general license published by AEC (now in § 71.12 of the NRC regulations) has been effective in reducing paperwork; however, one of its requirements has caused questions about the documents which the general licensee must possess. As a condition of the general license, the general licensee has been required to have a copy of "* * * all documents referred to in the

license, certificate, or other approval
* * *"

By letter dated March 10, 1980, the Foster Wheeler Energy Corporation filed a petition for rulemaking (Docket No. PRM 71-8) requesting that the Commission exempt persons licensed under 10 CFR Part 34 for industrial radiography from the requirement for the general licensee to have a copy of all the documents referred to in the specific approval.

Upon consideration of the information that would contribute to safe shipment, the Commission proposed amendment of the general license so that the general licensee would not be required to have "all" referenced documents, but would be required to have those drawings and other documents which relate to the use and maintenance of the packaging and to the actions to be taken prior to shipment.

The proposed amendment provided a period of 30 days for public comment. Eleven comments were received. The comments are general in nature and support the proposed amendment.

The Regulation

The final rule is the same as the proposed amendment. It modifies the requirement of § 71.12(b)(1)(i) that the general licensee have all documents referred to in the Commission's specific approval of the package. As modified, the regulation requires that the general licensee have those drawings and other documents relating to use and maintenance of the packaging and to the actions to be taken prior to shipment.

The final rule also amends § 71.12(c)(1) to clarify that the requirement for users of foreign-approved packages to possess documents relating to use and maintenance and preparation of the packages for use, includes an obligation to possess pertinent drawings.

Paperwork Reduction Act Statement

The Office of Management and Budget will be notified of the reduction of a recordkeeping requirement contained in Part 71.

Regulatory Flexibility Certification

Since this amendment reduces a present recordkeeping requirement, the Commission, in accordance with sec. 605(b) of the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), hereby certifies that this rule will not have a significant economic impact on a substantial number of small entities. Persons using the general license in § 71.12 will be required to possess fewer documents and thus should incur a reduction of approximately 50 percent in paperwork and recordkeeping costs.

List of Subjects in 10 CFR Part 71

Hazardous materials—transportation, Nuclear materials, Packaging and containers, Penalty, Reporting requirements.

Since the following amendment relieves rather than imposes restrictions under regulations currently in effect, it will become effective August 12, 1982, pursuant to 5 U.S.C. 553(d).

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendment of Title 10, Chapter I, Code of Federal Regulations, Part 71, is published as a document subject to codification.

≫48 FR 35600
Published 8/5/83
Effective 9/6/83
Correction 8/24/83

10 CFR Part 71

Rule To Achieve Compatibility With the Transport Regulations of the International Atomic Energy Agency (IAEA)

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is revising its regulations for the transportation of radioactive material to make them compatible with those of the International Atomic Energy Agency (IAEA) and thus with those of most major nuclear nations of the world. Although several substantive changes are made to provide a more uniform degree of safety for various types of shipments, the Commission's basic standards for radioactive material packaging remain unchanged. Some deletions from the proposed rule have been made to account for changes expected in the 1984 revision of the IAEA regulations (begun since the NRC proposed rule was issued) which will bring those regulations closer to those of the United States. These regulations apply to all NRC specific licensees who place byproduct, source, or special nuclear material into transportation. The special restriction on the air transport of plutonium has been included in this revision in its final form.

EFFECTIVE DATE: September 6, 1983. The information collection requirements are suspended until the Office of Management and Budget (OMB) has completed its review of the information collection requirements. In order to minimize negative impacts through the period before this rule becomes effective, during which there are some inconsistencies between the presently effective regulations of NRC and the Department of Transportation (DOT), the NRC has adopted a policy of flexibility. In practical terms, in those situations where compliance with a new DOT requirement would be in conflict with a current 10 CFR Part 71 requirement, NRC would in most cases accept compliance with the new DOT requirement. NRC would reserve judgement, however, to take enforcement action in an appropriate case.

ADDRESSES: Single copies of the value/impact analysis for this rule change may be obtained on request from the contact identified below. Copies of the value/impact analysis and of the Commission's analysis of public comments may be examined and copied for a fee in the Commission's Public Document Room at 1717 H Street NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Donald R. Hopkins, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone 301-443-7825.

SUPPLEMENTARY INFORMATION:

Background

On August 17, 1979, the Nuclear Regulatory Commission published in the Federal Register (44 FR 48234) a proposed revision of 10 CFR Part 71 of its regulations pertaining to the transportation of radioactive material. Interested persons were invited to submit written comments and suggestions on the proposal and/or the supporting value/impact analysis by October 16, 1979. The public comment period was subsequently extended to December 17, 1979. Based on the public comments and other considerations, the Commission has adopted the proposed revision, with modifications as set forth below. The regulations apply to all NRC licensees who place byproduct, source, or special nuclear material into transportation.

The revision, as proposed, in combination with a corresponding amendment of Title 49 of the Code of Federal Regulations by the Department of Transportation (DOT), would bring the U.S. regulations into accord with relevant portions of the International Atomic Energy Agency (IAEA) design and performance requirements to the extent considered feasible, thereby making U.S. regulations compatible with the domestic regulations of most of the international community.

One important change proposed was a change in the system used to specify the quantities of radioactive materials permitted in packages (designated Type A packages) not required to survive severe transportation accidents. These quantities, derived from criteria limiting individual radiation exposure resulting from transportation accidents, have since 1966, been based on grouping all radionuclides in seven transport groups and limiting all radionuclides in the group according to the toxicity of the most hazardous member. There was, in addition, a "special from" category for radioactive materials which are not dispersible because of their inherent physical form or because of suitable encapsulation. This system is unnecessarily restrictive when applied to the less toxic group members, which in some cases are less than one-tenth as toxic as other group members. The proposed change would eliminate the transport groups and instead assign to each radionuclide two values, A_1 and A_2, which are the maximum quantity of that radionuclide permitted in Type A packages in special form and non-special from, respectively.

The other major proposed change was to create two classifications of packages (designated Type B packages) which are resistant to transportation accidents. The two classifications are the Type B(M) package which for international shipment requires approval of the package design by the competent authority of each country into or through which the package is transported (i.e., multilateral approval) and the Type B(U) package which requires package design approval only of the country of origin (i.e., unilateral approval). Requirements for the Type B(U) package approval would be more stringent to assure that all countries affected would be satisfied with the package design as approved by the country of origin.

Other changes were proposed dealing with definitions, requirements for transporting low specific activity materials, small quantities of fissile material, and standards for leak tightness. A large number of changes were proposed to bring U.S. domestic rules as close as possible to the international standards. However, the basic systems of control remain unchanged as do the basic standards which define the required level of safety.

Other Considerations

IAEA Activities

During September 1980 and March 1982, revision panels were assembled by IAEA to draft changes for the scheduled 1984 revision of its transportation regulations. Decisions made by these revision panels, consisting of representatives of most major countries involved in nuclear material transportation, would make IAEA regulations more compatible with present U.S. regulations. NRC, in consultation with DOT, has decided not to include in its final revision of 10 CFR Part 71 those requirements introduced in the IAEA regulations in 1973 which are expected to be removed from IAEA regulations in the 1984 revision. This results in elimination of the "additional requirements for Type B(U) packages" in proposed § 71.34. The design criteria of § 71.34 (f) and (g) are deleted. All other distinctions between B(U) and B(M) packages are eliminated except those related to internal pressure limitations and pressure relief devices for B(U) packages, which are now contained in the definition of a Type B package.

The IAEA, as part of its effort to maintain the continued adequacy of the regulations, has adopted a modified system for determining A_1 and A_2 values. This new system will be incorporated in the 1984 revision of the IAEA regulations which is being prepared. The system was adopted in principle by the IAEA at the March 1982, Advisory Group on the revision and it was subsequently refined by a special Work Group which met in August 1982. When the IAEA circulates the "3rd Draft" version of the regulations, DOT will be making it available and will seek public comment.

It has become apparent to NRC that the new system incorporates a radiological exposure pathway which has not been considered previously. This pathway involves consideration of the dose to the skin of a person contaminated with a radionuclide. For most radionuclides this is not a limiting pathway as other considerations in both the present and proposed systems are generally more limiting. Examples of the other more limiting considerations are radiation levels from unshielded material and internal pathways such as inhalation. For some beta-emitting nuclides, however, the contaminated skin consideration is limiting. In some cases the Type A limits calculated under the newly adopted system are significantly lower than the previously accepted A_2 values and some are even lower than the earlier Transport Group values.

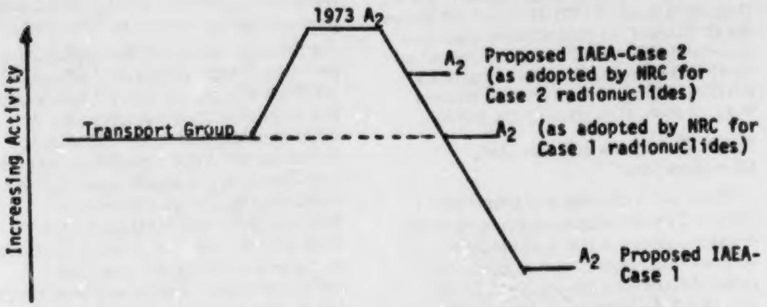
The NRC believes that it cannot ignore the contribution that the contaminated skin consideration makes toward a complete system for calculating Type A values. This is particularly true for radionuclides which have high A_2 values under the 1973 IAEA regulations and would have considerably lower A_2 values under the new IAEA system due to their potential for significant dose to contaminated skin. Of these radionuclides, some have values below the old transport group values (Case 1) and some have values between the old transport group and the 1973 IAEA values (Case 2).

The NRC believes that it is prudent to both accept this new pathway as necessary to provide a complete system for setting Type A values and to minimize unnecessary fluctuations in the Type A limits. While there is some uncertainty as to the exact values which will result from the final, accepted new IAEA system, the NRC is confident that the values now available are conservative and will most probably not be lowered. Therefore, for those nuclides which are limited bv the skin exposure pathway, values have been selected as follows:

Case 1: The transport group values are adopted as the new A_2 values.

Case 2: The values now available are adopted in lieu of the 1973 IAEA values.

These two cases can be represented graphically as:


1973 A_2
Increasing Activity
Transport Group
A_2 Proposed IAEA-Case 2 (as adopted by NRC for Case 2 radionuclides)
A_2 (as adopted by NRC for Case 1 radionuclides)
A_2 Proposed IAEA-Case 1

The radionuclides which are affected in Case 1 are:

Ag-111
As-77
Au-198
Cd-115
Ce-143
Dy-165
Er-171
Gd-159
In-115m
Mo-99
Nd-147
Nd-149
Os-193
Pd-109
Pm-149
Pr-143
Pt-197m
Pt-197
Re-186
Sc-47
Si-31
Sm-153
Te-127m
Te-127
Te-129
W-187
Zn-69m
Zn-69

The radionuclides which are affected in Case 2 are:

Au-199
Br-77
C-14
Ca-45
Ce-141
Cl-36
Cs-134m
Cs-135
Cs-137
Cu-64
Cu-67
Er-169
Eu-152
Eu-155
Hf-181
Hg-203
I-133
In-111
Ir-192
K-43
Lu-177
N-13
Np-239
Os-191
Pm-147
Rb-81
Rh-105
Ru-103
S-35
Sb-125
Sr-89
Tb-160
Tc-99
Te-129m
Th-231
Tl-204
Tm-170
W-185
Yb-175

In both cases the values adopted herein are no lower than the previously existing transport group values and yet are lower than the previously proposed 1973 IAEA A_2 values. For the radionuclides listed under Case 1, the A_2 is set at the old limit of 20 curies as each nuclide was previously in transport group IV which had this limit. The nuclides listed in Case 2 have been assigned the currently available values under the new IAEA system. These values are between the old transport group and the 1973 IAEA values. When the new IAEA system is fully implemented by the IAEA, and the skin exposure pathway is taken into due account, then NRC expects to complete the alignment of A_2 values between the U.S. and the IAEA.

It is expected that there will be a complete revision of the IAEA criteria governing the definition and transportation of low specific activity material. In anticipation of the future IAEA changes, the proposed definitions of low-level solid radioactive material (LLS) and of low specific activity material (LSA) are withdrawn, and the definition of low specific activity material in the present rule is retained with some minor changes to make it consistent with the new A_1/A_2 system for defining Type A quantities of radioactive material. The proposed exemption from NRC regulation for LSA and LLS materials has been withdrawn pending resolution of this issue. A separate NRC rulemaking action to upgrade the LSA standards will be undertaken in the near future. .

United States Activities

New guidelines have been issued by the Office of the Federal Register on the use of numbering systems for regulations, and on the use of appendices. These new guidelines, and others concerning the writing of regulations in "plain English," have resulted in large but nonsubstantive changes in the format of 10 CFR Part 71. Existing Appendices A, B, D, and E have all been incorporated as new sections in the body of the rule and large, complex sections have been divided for clarity.

Two recent NRC decisions have resulted in minor changes from the Transportation rules proposed in 1979. The definition of "radioactive material" has been deleted because it duplicated, in a less effective manner, the function of the long standing exemption in proposed § 71.8(a) (now § 71.10(a)) which avoids any regulatory requirements for radioactive material having a specific activity not greater than .002 microcuries per gram. Although this leaves NRC rules without a definition of radioactive material corresponding to those of DOT and IAEA, there is no substantive inconsistency because the exemption provisions are retained.

NRC has also decided to require reporting of package defects within 30 days of discovery to assist the staff in follow-on evaluations of approved package designs. Reporting of defects is already required by 10 CFR Part 21, "Reporting of Defects and Noncompliance," and is added to the proposed reporting requirement in § 71.61 (now § 71.95) for clarity and emphasis. The information to be reported has been moved from the 10 CFR Part 71 recordkeeping requirement of § 71.62 (now § 71.91) to the reporting requirement in § 71.95.

Other Rulemaking Actions Included

On November 2, 1979, the NRC published in the Federal Register (44 FR 63083) a final rule to require all shipments of radioactive material made by NRC specific licensees to be made in accordance with the regulations of DOT. The effect of the rule was to allow the NRC to inspect the activities of its licensees involved with shipment of radioactive materials against the requirements in DOT regulations. Licensees who violate the referenced DOT standards also violate NRC regulations. Those changes are incorporated in this revised rule.

On January 6, 1982, the NRC published in the Federal Register (47 FR 596) a final rule to require advance notification to the governor of any state prior to transport of certain types of nuclear waste, including spent fuel, to, through, or across the boundary of that state. That requirement has been repositioned in this revised rule for clarity, and is now codified as § 71.97 "Advance notification of shipment of nuclear waste." The associated definition of "nuclear waste" has been incorporated into § 71.97.

The preamble to the final rule imposing the advance notification requirement recognized that the term "large quantity," which establishes the level of radioactivity at which the advance notification is required, was being eliminated from the regulations. The original purpose of the term, as a designator of the quantities of radioactive materials which generate sufficient decay heat to warrant consideration of heat dissipation in the package design and approval, is antiquated, as all Type B packages are now evaluated for heat dissipation under both normal and accident conditions. In addition, the elimination of the transport group system for classifying radionuclides in favor of the A_1/A_2 system has removed the basis on which the term "large quantity" was defined. This final rule retains the advance notification requirement with the same limits on reportable quantities. There have been some minor changes made to make the requirement consistent with the new A_1/A_2 system for defining Type A quantities of radioactive material.

On November 13, 1981 the NRC published in the Federal Register (46 FR 55992) a proposed rule to restrict the air transport of plutonium. Under the proposed rule, plutonium could be transported by air only in a package specifically certified by NRC as air-crash resistant unless the plutonium is in a medical device for individual human use or is shipped in quantites or concentrations small enough to present no significant hazard to the public health and safety even if the plutonium were released in an air crash. Only one public comment was received with respect to the proposed rule, and that was favorable. The final rule, as proposed, is therefore included in this overall revision of Part 71.

The original restriction on the air transport of plutonium was imposed by NRC order dated August 15, 1975. This order was imposed after the U.S. Congress, in Pub. L. 94–79, prohibited the NRC from licensing any shipments of plutonium by air until the NRC certified to the Congress that a safe container had been developed and tested which would not rupture under crash and blast-testing equivalent to the crash and explosion of a high-flying aircraft. A second order was issued on September 1, 1978, superseding the first order dated August 15, 1975, after the first air-crash resistant package, the Model PAT–1 package, had been certified by NRC to the Congress. The second order allowed the use of the PAT–1 package for the air transport of plutonium. With the finalization of this regulatory revision and the imposition of 10 CFR Part 71.88 to implement the restriction of Pub. L. 94–79, the NRC's second order dated September 1, 1978 is being revoked by the Provisions of § 71.88. However, in addition to the NRC orders, restrictive conditions were also placed in the licenses of persons authorized to possess plutonium, restricting its air shipment. Those license conditions will be automatically removed from the licenses when the licenses are processed by NRC for renewal or amendment. Any licensee who needs that license condition removed earlier should request that action. There will be no licensing fee for removal of the condition.

On October 1, 1976, Diagnostic Isotopes Incorporated petitioned the Commission to include the radionuclide lead-201 in Appendix C of 10 CFR Part 71, as a Transport Group IV radionuclide (PRM-71-3). Lead-201 decays in a short time to thallium-201 which is useful in clinical nuclear medicine. This final revision of 10 CFR Part 71 includes lead-201 in the table of radionuclides with a Type A quantity of 20 curies, thus granting the petition.

On July 18, 1977, Eberline Instrument Corporation petitioned the Commission (PRM-70-6) to approve the air transport of calibration or reference sources which contain not more than five microcuries of plutonium and which are generally licensed pursuant to 10 CFR 70.19, "General license for calibration or reference sources." Air transportation of plutonium has been prohibited by NRC order since August 15, 1975, except when the plutonium is in a medical device for individual human use, or is in a package specifically certified by NRC as air-crash resistant. This final revision of 10 CFR 71 at §71.88 allows the air transport of plutonium in quantities or concentrations small enough to present no significant hazard to the public health and safety even if the plutonium were released in an air crash, thus granting the petition.

Public Comments and Detailed Considerations

There were 29 letters of comment received on the proposed revision from industry, government, and medical sources. The most common comment noted differences among NRC, DOT, and IAEA definitions and requirements where no reasons for differences were apparent. The present Memorandum of Understanding between DOT and NRC, published on July 2, 1979 (44 FR 38690), defines the types and quantities of radioactive materials to be regulated by each agency. There are some common definitions and requirements. It is important that the two sets of regulations be consistent. It is also intended that, to the extent feasible, and aside from administrative matters, both sets be substantively in accord with IAEA regulations, Safety Series No. 6. These inconsistencies have been corrected in the final rule where possible.

Detailed consideration of all public comments is contained in a document entitled "Consideration of Public Comments—Revision of 10 CFR Part 71 for Compatibility with IAEA Regulations (44 FR 48234)." This document may be examined in the Commission's Public Document Room at 1717 H Street, NW., Washington, D.C. The following is a discussion of public comments of general interest on, and significant changes in, the proposed regulations, discussed in the order in which the requirements were proposed:

Section 71.4 Definitions

One commenter noted that certain isotopes of americium, curium, and californium are also fissile, but not included in the definition of "fissile material." Another commenter proposed deleting plutonium-238 from the list of fissile radionuclides because, as with fissile isotopes of americium, curium, and neptunium, it is capable only of fast fissioning. The present Part 71 classification, which is also that of the IAEA, is being retained because plutonium-238 is shipped in substantial quantities, whereas available quantities of americium, curium and neptunium are so small as to be of no concern with respect to criticality in transportation.

With respect to the definition of "Type B package", the question was asked, "Are there limits on the quantity of material that can be shipped in a single Type B package?" While there are no limits specified in the regulation there are quantity limits specified in the package design approval. These may be the limits proposed in the application for package design approval, if adequately justified, or may be lower if necessary due to heat, criticality, shielding, or other considerations. In addition, the definition of "Type B package" has been modified to more clearly specify the sole remaining technical distinctions between B(U) and B(M) packages, having to do with the internal pressure, and pressure relief devices. The definition remains different from that of IAEA which emphasizes the unilateral or multilateral approval system for international transportation. This is an administrative distinction which will be controlled through the regulations of DOT.

The proposed definition for special form would have required all encapsulations to be contained in a sealed capsule "which can be opened only by destructive means." This phrase was intended to clarify the IAEA requirement which states that an encapsulation must be "so constructed that it can be opened only by destroying the capsule." Comments received indicated that the IAEA wording was less subject to varying interpretations and so it has been incorporated in the definition of special form. Commenters pointed out some difficulties which would result from performing cutting and welding or brazing operations in the closed environment of a glove-box or hot cell, but these objections were not quantified to any degree and are routinely performed in certain industries. It was not established by the commenters that the proposed requirement could not be met or that it would be too costly to meet the requirement.

Section 71.5 Transportation of licensed material

In the interest of simplicity, the references to the regulations of the U.S. Postal Service (USPS) have been removed from §71.5. The jurisdiction of the USPS has no limitations pertinent to safety as does the DOT jurisdiction which is limited to the "transportation of hazardous materials in commerce." Anyone who uses the USPS transportation system for transportation of radiocative material is subject to the USPS regulations, the substance of which is contained in USPS Publication #6, "Radioactive Materials," dated December 1975. Single copies of that publication are available from USPS or from the contact identified in this notice. References to USPS regulations are deleted from §71.5 but included in §71.0(b) as a reminder that there are other agencies having jurisdiction over means of transport.

§ 71.5 has been revised for clarity to refer specifically to those revisions of DOT regulations which are imposed by reference. The list of provisions is not inclusive, however. A knowledge of all applicable DOT regulations is necessary.

Section 71.7 Exemption of Physicians (now § 71.9)

Two comments related to the exemption of physicians in proposed § 71.7, and particularly to the idea that large quantities of radioactive material could be carried by physicians without any regulatory control. When this physician exemption was introduced into Part 71, the Notice of Proposed Rulemaking (36 FR 6521, April 6, 1971) explained that the exemption was "in line with the position taken several years ago by the Interstate Commerce Commission and now assumed by the Department of Transportation, that the DOT regulations do not apply to physicians transporting in their own vehicles radioactive material used for treatment or diagnosis." The physician exemption was added to the regulations concurrently with § 71.5 which imposed DOT regulations, by NRC (AEC at that time) authority, on persons not otherwise subject to them. The physician exemption served to avoid having NRC impose DOT regulations on physicians when DOT chose not to impose them by its own authority. The changes to the physician exemption by this rule clarify that physicians are exempt only from § 71.5, and therefore from NRC imposition of DOT requirements, but are subject to requirements of Part 71 if they transport fissile material or Type B quantities of other radioactive material. Physicians who are exempt from § 71.5 under this provision must possess an NRC license under Part 35 of this chapter.

Section 71.8 Exemption for low level materials (now § 71.10)

The exemption for low specific activity material and low level solids has been removed from this section because NRC plans to retain control over Type B quantities of such material until questions regarding the adequacy of the standards have been resolved.

Section 71.9 Exemption for fissile material (now § 71.53)

For clarity, the provisions describing the types of fissile material that are exempt from fissile packaging standards now precede the general requirements for all fissile material packages. In addition, a new entry dealing with irradiated natural or depleted uranium has been added.

Section 71.11 General license for shipment of fissile material

The extensive provisions of § 71.11 have been divided, for clarity, into four new sections codified as §§ 71.18–71.24. The substance of the four new sections corresponds to the substance of paragraphs (a), (b), (c), and (e) of § 71.11 of the proposed rule. The substance of proposed § 71.11(d) was to provide system flexibility once an NRC fissile package approval has been issued. This type of provision is more appropriately placed in DOT regulations, and has been placed there.

Section 71.12 General license for shipment in approved packages (new §§ 71.12–71.16)

The extensive provisions of § 71.12 have been divided, for clarity, into three new sections codified as §§ 71.12, 71.14, and 71.16. The substance of the three new sections corresponds to the substance of paragraphs (b), (a) and (c), respectively, of § 71.12 of the proposed rule.

One commenter noted that this section fails to grant a license to transport Type A packages and packages containing low specific activity material, and that DOT regulations also do not grant that type of license. The requirement for a license to transport radioactive material is not pervasive throughout the regulatory system. The requirement for a general or specific license is imposed by § 71.3 of NRC regulations, but that section specifically excludes from the licensing requirement persons who are "exempted in this part." Those exempted are identified in § 71.8 (now § 71.10) as including licensees who ship Type A packages. DOT regulations do not impose a licensing requirement, so no license is required by either Federal regulation for shipments exempt under § 71.8 (now § 71.10)

Another question asked concerning § 71.12 is as follows: "In the event a licensee who is not the owner of a package procures a package for another licensee to make a shipment, which licensee(s) must register as users of the package and have copies of the Certificates of Compliance and all referenced documents?" As provided in § 71.2 "Scope" (now § 71.0), the regulations in Part 71 apply " * * * if the licensee delivers such materials to a carrier for transport or transports such material outside the confines of his facility, plant or other authorized place of use." The requirements of Part 71, and thus of § 71.12, apply to a licensee who ships or transports licensed radioactive material. A licensee who procures a package but does not use it to ship or transport licensed material is not subject to the regulations of Part 71.

§ 71.31 Demonstration of compliance (now § 71.41)

In response to public comments this section has been revised to clarify the intent that actual testing is not always required. The demonstration of compliance might, for example, include a combination of full-scale testing, scale model or mockup testing, calculation, and reference to other suitably documented tests. Compliance with thermal test requirements, for example, is often demonstrated by calculation or a combination of calculation and test. As another example, some packages such as those made of metal, would obviously suffer no ill effects from the water spray test, so that appropriate statements about the design might then suffice.

Section 71.32. Standards for all packages (now § 71.43–71.47)

Par. (h)—The appropriateness of the reference to "NRC approved test procedures" was questioned, because no reasonable procedures have yet been published by NRC. There are some acceptable leak testing procedures in Regulatory Guide 7.4, "Leakage Tests on Packages for Shipment of Radioactive Materials," which refers to the standards published in the American National Standards Institute Publication N14.5. However, the reference to "NRC approved test procedures" was primarily to procedures the NRC has been or will be approving with quality assurance plans submitted for package approval (as required under proposed § 71.24), or with quality assurance plans submitted for approval under proposed § 71.12 to qualify for the general license provisions. The phrase "NRC approved test procedure" has been deleted from the final rule as unnecessary.

Section 71.36. Special requirements for plutonium shipments (now § 71.63) An objection was received on the continuance of this special requirement which is not contained in IAEA regulations. The requirement was justified when imposed in 1974; the Commission considers that the need for this requirement still exists.

A comment suggests changes to the scope of this section to include other radionuclides of similar radiotoxicity such as californium-249, californium-252, and protactinium-231, and to exclude plutonium-241 because of its relatively low radiotoxicity. While this suggestion may have merit, it will be considered in a separate rule making action since it is beyond the scope of this particular action.

A question was asked whether PuO$_2$ would be considered as a solid for the purpose of this requirement. PuO_2 in a powder form or pressed into a pellet would be considered a solid for purposes of this requirement; PuO_2 suspended in a liquid would not.

Par. (b)—It was suggested that a specific exemption be included for solid waste which contains plutonium from the requirements for solid form and double containment, or alternatively that specific criteria be included to qualify for that exemption. The establishment of detailed criteria would require further experimental work and analysis. However, the general consideration that the plutonium must be in "nonrespirable" form is discussed in the Statement of Considerations accompanying the rulemaking action requiring solid form and double containment as published in the Federal Register on June 17, 1974 (39 FR 20960). Possible exemptions must, at present, be considered on a case-by-case basis, and undoubtedly some solid waste forms would not qualify as being sufficiently nonrespirable.

Section 71.37 Previously approved packages (now § 71.13)

It was suggested that an application for renewal of an existing certificate of compliance should be evaluated under the same criteria as the original application. The purpose of proposed § 71.37 was to allow the continued use of existing packages without regard to the relatively minor changes to the package standards effected by this rule. The purpose was not to prolong the existence of the old standards, not even for purposes of certificate renewal or minor design changes. Existing package approvals for the use of existing hardware will be renewed without regard to the change in package standards, although other factors, such as package experience or inspection history, may result in denial of an application for renewal of a Certificate of Compliance.

The provisions of proposed § 71.37 have been incorporated by reference into the new § 71.12 "General license: NRC approved package." The general license of § 71.12 continues to apply to previously approved packages if fabrication of the packages is completed by August 31, 1986. After August 31, 1986, previously approved packages cannot be used for international transport unless they have been reapproved under the new standards and assigned a B(U) or B(M) designation, or shipped under special arrangement approved by the DOT. Paragraph 71.31(b) has been added to clarify that only limited changes in packaging or contents will be approved for previously approved packages without a demonstration that the new package standards are satisfied.

Section 71.52 Assumptions as to unknown properties (now § 71.83)

A suggestion was made that "this section should be a part of § 71.35 since it does not address a transport operation, but deals with package evaluation." On the contrary, proposed § 71.52 (now § 71.83) is intended to assure that, during the preparation of a package for shipment, a conservative approach is taken with respect to any pertinent property of fissile material to be transported when the property is not positively known. For this purpose, the Commission judges that the "Operating Controls and Procedures" Subpart to Part 71 is the proper location for the requirement. The design, evaluation, and Certificate of Compliance may cover a range of properties and quantities. For a particular shipment, however, some property or quantity may not be accurately known; in that case the most adverse credible assumption must be made for assessment of compliance.

Section 71.53 Preliminary determinations (now § 71.85)

Par. (b)—Several commenters objected to the word "leak-tightness" as an acceptance standard for this overpressure test, on the grounds that it differs from the parallel IAEA requirement that imposes only a structural integrity acceptance criterion. A pressure test at some pressure higher than design pressure has been used, for example, in ASME Code practice, as a test for structural integrity but not for leak-tightness. The Commission considers that in the case of radioactive material packages, integrity of the containment (including closures, valves, and other possible routes of escape) should be demonstrated for each fabricated package before first use. Required tests for leak-tightness are presently related to the package design and are required as a condition of the package design approval.

Clarification of this requirement with respect to pressure relief devices was requested. Although a pressure relief device may need to be made inoperative to reach the test pressure of proposed § 71.53(b) (now § 71.85(b)), the device may normally be set below that test pressure for shipment, provided the criteria of Subparts E and F are satisfied.

Section 71.54 Routine Determinations (now § 71.87)

Par. (b)—It was suggested that external radiation level limits (as well as other provisions) be excluded from NRC regulations in deference to the same provisions in DOT regulations. The Commission's policy in this matter is that all Type B and fissile material package requirements are to be included in NRC regulations. External radiation level and temperature restrictions have been transferred to the "Package Standards" Subpart as design review requirements.

As suggested, the wording of the external radiation level limits has been made nearly identical to that of the DOT regulation. The limit at 2 meters from the surface also conforms to that of IAEA in that it does not apply to space above or below the vehicle. The 2-meter limit is for the purpose of controlling general public exposure for which there is little control needed above and below the vehicle. This is in contrast to the surface limits for control of exposure to persons working in and around the vehicle where the limits are applied to the upper and lower surfaces in addition to the vertical surfaces.

One commenter suggested that the external temperature limits be applied only to B(U) packages (as in IAEA regulations) but not to B(M) packages. It is the Commission's view that the higher temperature limit stated (82°C) would be applicable only to an exclusive use shipment where the carrier's handling procedures and the stowing of other cargo can be controlled by the shipper to avoid problems resulting from the higher surface temperature. All packages placed in normal transport must adhere to the lower temperature.

Par. (d)—As noted in the comments, there were no limits proposed on package coolant contamination. The Commission has adopted the IAEA rationale that contaminated coolant is part of the package contents, and must either be restricted to very low levels or retained in the package under the hypothetical accident conditions.

The level of non-fixed radioactive contamination on external surfaces of packages was limited in the proposed rule by values in Table VI. However, it was not sufficiently clear that when the wiping method is used, the limit of the radioactive contamination collected by the wiping material is not to exceed 10% of the values specified in the Table. Since the wiping method is used almost exclusively for determining non-fixed contamination levels, it is simpler to specify directly in the Table the limits on radioactive contamination as determined by the wiping method. Therefore, the levels in the Table (now Table V) are reduced by a factor of ten and these levels are specified as the limits for radioactive contamination as determined by the wiping method. Other methods of assessment of equal or greater detection efficiency may be used. For these methods, limits on radioactive contamination on the external surfaces of packages are specified. This change clarifies the meaning of the paragraph but does not change any regulatory requirement.

A commenter asked who must perform the preliminary and routine determinations and keep records where the shipper (licensee) of a package is not the owner (also a licensee) of the package. Ownership of a package is not important in satisfying Part 71 requirements. The scope of the rule applies the requirements to a person who is already licensed under any other part of 10 CFR Chapter I, but only if that licensee delivers licensed materials to a carrier for transport or if the licensee transports licensed material. A person who merely owns a package is not subject to the requirements of Part 71. On the other hand, a user of the package would be subject to the Part 71 requirements for preliminary and routine determinations and record keeping requirements, even though the user may not own the package. The user of the package always has the regulatory responsibility for preliminary and routine determinations. However, the user can contract with some other person, perhaps the owner, to satisfy those requirements for the user, although the user's records must demonstrate that the requirements have been satisfied.

It was noted that the choice of materials for packaging is dependent upon the low temperature initial condition for the normal transportation tests with respect to brittle fracture. The same commenter requested explicitly stated criteria on materials of construction to eliminate the present degree of subjective judgment. With this rule change, the Commission believes that the performance criteria for materials of construction that relate to brittle fracture are reasonably clear with a combination of temperature and drop tests, puncture, and vibration mechanical tests. Design guidance for brittle fracture is being developed within NRC and will be contained in a future regulatory guide.

Appendix A—Normal Conditions of Transport (now § 71.71)

Heat—As discussed in the Notice of Proposed Rulemaking, the proposed ambient air temperature of 54° C (130° F), to which the effects of solar radiation must be added as an extreme condition of normal transport, differs from the IAEA figure of 38° C (100° F) to which the effects of solar radiation must be added. These final requirements of Part 71 have been modified to adopt the IAEA standard of 38° C plus specified solar radiation. This decision takes into account that Type B packages do not respond quickly to temperature changes, so a long-term average temperature test is more appropriate than a test which includes temperature extremes.

Cold—A commenter argued that the IAEA regulations are being misinterpreted when the NRC applies a temperature of −40° C as a normal transport temperature extreme. IAEA regulations state that "−40° C and 70° C shall be considered as satisfactory limits to be used in the selection of the materials." The Commission has chosen to use the lower temperature extreme as an ambient temperature not to be considered in combination with any impact. As such the lower temperature extreme provides protection against damage from differential thermal expansion and other static types of damage. Protection against dynamic types of damage is provided by the −29° C temperature, specified as an initial condition for the tests, in combination with mechanical impacts characteristic of rough handling in normal transport.

Appendix C—Determination of A_1 and A_2 (now Appendix A)

Commenters pointed out that the new, lower A_1 value for sealed sources (special form) of americium and plutonium used in neutron sources and in nuclear-powered heart pacemakers involves significant costs without any apparent benefits. For the uses in question, the present 20 curie limit for Type A packages satisfies the international standard of not exceeding a dose rate level of 1000 millirem per hour at 3 meters from the source if all radiation shielding were lost. The proposed reduction in Type A package limits comes from an additional, arbitrary IAEA limit of a factor of 1000 on the difference in allowed radioactive contents between special form and non-special form sources. Because of the high radiotoxicity of most plutonium and americium isotopes, which severely restrict the A_2 (non-special form) values, the A_1 (special form) values in IAEA regulations are reduced to 3 curies for plutonium-238, 2 curies for plutonium-239, and 8 curies for americium-241. Because of the economic impact for neutron sources (oil well-logging industry) and heart pacemakers (health industry), the reduced limits proposed have been reevaluated, with the conclusion that the criteria are sufficiently conservative without the arbitrary limit to warrant retaining the 20-curie limits for domestic shipment in these cases. An exception has thus been introduced into § 71.10, "Exemption for low-level materials," retaining the 20-curie limit for domestic transport of americium and plutonium in special form.

A commenter questioned the A_1 values in Table A–1 for the radionuclides cesium-137 and strontium-90 as the values are related to those which would be obtained under the Appendix instructions. In each case, the radionuclides are part of a decay chain, and the commenter, in calculating A_1 values, has ignored the radiation emitted by the daughter radionuclides of the decay chain. When the radiation emitted by the daughter radionuclides is considered, there is no discrepancy. The instructions in Appendix A, Section II, "mixture of radionuclides, including radioactive decay chains," have been modified to clarify this matter.

Comparison With Current Regulations

Set forth below is a cross-index of sections contained in this final revision of Part 71, the previous effective regulation, and IAEA Safety Series No. 6, "Regulations for the Safe Transport of Radioactive Materials—1973 Revised Edition (As Amended)," dated 1979.

CROSS INDEX

Description	Final revision	Previous effective regulation	IAEA safety series No. 6
Subpart A—General Provisions			
Purpose and scope	71.0	71.2	101–104.
Communications	71.1	71.13	
Interpretations	71.2	71.14	
Requirement for license	71.3	71.3	105–108.
Definitions	71.4	71.4	109–145.
Transportation of licensed material	71.5	71.5	
Subpart B—Exemptions			
Specific exemptions	71.7	71.8	
Exemption of physicians	71.9	71.8	
Exemption for low-level materials	71.10	71.7	801.
Subpart C—General Licenses			
General license: NRC approved package	71.12	71.12(b)	623, 804–814.
Previously approved package	71.13		
General license: DOT specification container	71.14	71.12(a)	
General license: Use of foreign approved package	71.16	71.12(c)	
General license: Type A, fissile class II package	71.18	71.11(b)	
General license: Restricted, fissile class II package	71.20		620.
General license: Type A package fissile class III shipment	71.22	71.11(a)	
General license: Restricted, fissile class III shipment	71.24		624.
Subpart D—Application For Package Approval			
Contents of application	71.31	71.21	805, 808.
Package description	71.33	71.22	
Package evaluation	71.35	71.23	
Quality assurance	71.37	71.24	
Additional information	71.39	71.25	
Subpart E—Package Approval Standards			
Demonstration of compliance	71.41	71.34(a)	701.
General standards for all packages	71.43	71.31	210–244.
Lifting and tie-down standards	71.45	71.31	204, 205, and 224.
External radiation standards	71.47	73.393	534, 537.
Additional requirements for type B packages	71.51	71.36	243, 234.
Exemption for LSA packages	71.52	71.36	
Fissile material exemptions	71.53	71.11	601.
General requirements for all fissile material packages	71.55	71.33, 71.37	605–608, 615–618.
Specific standards for a fissile class I package	71.57	71.38	609.
Specific standards for a fissile class II package	71.59	71.39	619.
Specific standards for a fissile class III shipment	71.61	71.40	622.
Special requirements for plutonium shipments	71.63	71.42	
Additional requirements	71.65	71.15	
Subpart F—Package and Special Form Tests			
Normal conditions of transport	71.71	(²)	709–714, and 702.
Hypothetical accident conditions	71.73	(³)	715–724, and 702.
Qualification of special form radioactive material	71.75	(⁵)	726–737.
Tests for special form radioactive material	71.77	(⁵)	732–736.
Subpart G—Operating Controls and Procedures			
Applicability of operating controls and procedures	71.81		
Assumptions as to unknown properties	71.83	71.52	603.
Preliminary determinations	71.85	71.53	738.
Routine determinations	71.87	71.54	739.
Air transport of plutonium	71.88		
Opening instructions	71.89	71.55	
Records	71.91	71.62	
Inspection and tests	71.93	71.63	
Reports	71.95	71.61	
Advance notification of shipment of nuclear waste	71.97	71.5a, 71.5b	
Violations	71.99	71.64	
Subpart H—Quality Assurance			
Quality assurance requirements	71.101	71.51	839.
All other QA standards	71.103– 71.137	(⁶)	839.
Determination of A_1 and A_2	(¹)	(⁴)	403–411.

[1] Reference is to the provisions of Department of Transportation regulations in 49 CFR Part 173.
[2] App. A.
[3] App. B.
[4] App. C.
[5] App. D.
[6] App. E.

Administrative Requirements

The Commission has determined that neither the Council on Environmental Quality guidelines, 40 CFR Part 1500, nor the NRC regulations in 10 CFR Part 51, "Licensing and Regulatory Policy and Procedures for Environmental Protection," requires the NRC to prepare an environmental impact statement for this revision of 10 CFR Part 71. Concurrently with the publication of this notice of rulemaking, the Commission is making available in its Public Document Room at 1717 H Street, NW., Washington, DC, an "Environmental Impact Appraisal of Changes to Radioactive Material Transport Regulations," to support the negative Declaration required by 10 CFR Part 51.

Paperwork Reduction Act Statement

The information collection requirements in this final rule were not reviewed by the Office of Management and Budget at the proposed rule stage because the proposed rule was published prior to April 1, 1981, when the Paperwork Reduction Act became effective. Therefore, the Nuclear Regulatory Commission is submitting this final rule to the Office of Management and Budget for any review appropriate under the Act (44 U.S.C. 3501 et seq.). The effective date for the information collection requirements in this rule provides the 60 days required for OMB review.

List of Subjects in 10 CFR Part 71

Hazardous materials—transportation, Nuclear materials, Packaging and containers, Penalty, Reporting and

recordkeeping requirements.

Under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 552 and 553, the following revision in its entirety of 10 CFR Part 71 is published as a document subject to codification.

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48 FR 38449
Published 8/24/83

10 CFR Part 71

Rule To Achieve Compatibility With the Transport Regulations of the International Atomic Energy Agency (IAEA)

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule; correction.

SUMMARY: In a Federal Register document published on August 5, 1983 (48 FR 35600), the U.S. Nuclear Regulatory Commission (NRC) revised its regulations for the transportation of radioactive material to make them compatible with those of the International Atomic Energy Agency (IAEA) and thus with those of most major nuclear nations of the world. This notice contained a number of typographical errors which are corrected below. In addition, Table A-1 is reprinted in a larger format for reader convenience.

FOR FURTHER INFORMATION CONTACT: Donald R. Hopkins, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: 301-443-7878.

SUPPLEMENTARY INFORMATION: Corrections are made to the following pages:

1. On page 35601, column three, in the second complete paragraph, line 15, "betaemitting" is corrected to read "beta-emitting".

2. On page 35602, column one, the fourth item in the third column of the table under the sentence which begins, "The radionuclides which are affected in Case 1 are:" "Te-127M" is corrected to read "Te-127m".

3. On page 35602, column one, the 11th item in the first column of the table under the sentence which begins, "The radionuclides which are affected in Case 2 are:" "Cu67" is corrected to read "Cu-67".

4. On page 35603 in column two, just above the center heading "Public Comments and Detailed Considerations" insert this paragraph:

On October 1, 1976, Diagnostic Isotopes Incorporated petitioned the Commission to include the radionuclide lead-201 in Appendix C of 10 CFR Part 71, as a Transport Group IV radionuclide. Lead-201 decays in a short time to thallium-201 which is useful in clinical nuclear medicine. This final revision of 10 CFR Part 71 includes lead-201 in the table of radionuclides with a Type A quantity of 20 curies, thus granting the petition.

5. On page 35604, column one, line three, "radiocative" is corrected to read "radioactive".

6. On page 35604, column three, in line five, "§ 710" is corrected to read "§ 71.0".

7. On page 35606, column one, in the first complete paragraph, line 19, "radio-active" is corrected to read "radioactive".

8. On page 35606, column three, in the first complete paragraph, line four, delete the "=" which precedes the number 90.

PART 71—[CORRECTED]

9. On page 35608, column one, Subpart H-Quality Assurance, eighth entry which reads "71.115 Control of purchased material equipment, and services." is corrected to read "71.115 Control of purchased material, equipment, and services."

§ 71.0 [Corrected]

10. On page 35608, in § 71.0, line two, "Requirements" should be corrected to read "requirements"

§ 71.4 [Corrected]

11. On page 35609, column two, in line eight of paragraph (5), "disintergations" is corrected to read "disintegrations"

§ 71.12 [Corrected]

12. On page 35610, in § 71.12(e), a period is added to the end of the sentence.

§ 71.16 [Corrected]

13. On page 35611, in § 71.16(c)(2), line 7, "license" is corrected to read "licensee"

§ 71.18 [Corrected]

14. On page 35611, in § 71.18(c), delete the word "the" in line five, and the formula should be corrected to read as follows:

$$\text{Minimum Transport Index} = (0.40+0.67y+z)\left(1-\frac{15}{x+y+z}\right).$$

§ 71.20 [Corrected]

15. On page 35612, in § 71.20(b)(6), Table I should appear in paragraph (i) and Table II should appear in paragraph (ii).

§ 71.24 [Corrected]

16. On page 35612, in § 71.24(b)(6), Table III should appear in paragraph (i) and Table IV should appear in paragraph (ii).

§ 71.31 [Corrected]

17. On page 35613, in § 71.31(a)(3), the word "descriptions" is corrected to read "description".

18. On page 35613, column one, Table III, the final item in the second column, headed "Permissible maximum grams of uranium-235 per consignment" is corrected to read "15,000".

§ 71.33 [Corrected]

19. On page 35613, in § 71.33(a)(6), the final word is to read "coolant."

§ 71.45 [Corrected]

20. On page 35614, in § 71.45(b)(2), line two, the word "tie-down" should not be hyphenated.

§ 71.75 [Corrected]

21. On page 35617, in § 71.75(b), line three, "beding" is corrected to read "bending".

22. On page 35617, in § 71.75(d), line eight, "grater" is corrected to read "greater".

23. On page 35617, in § 71.75(d), line 11, the expression "(1.3×10^{-3} atm cm^3s)" is corrected to read "(13.3×10^{-4} atm cm^3/s)."

24. On page 35617, in § 71.75(d), line 14, the expression "10-6" is corrected to read "10^{-6}".

§ 71.77 [Corrected]

25. On page 35617, in § 71.77(c), line 12, the word "force" is corrected to read "face".

§ 71.87 [Corrected]

26. On page 35618, in § 71.87(i)(1), line 11, the word "and" is corrected to read "on".

§ 71.107 [Corrected]

27. On page 35621, in § 71.107(b), line two, the word "indentification" is corrected to read "identification".

Appendix A—[Corrected]

28. On page 35623, in Appendix A.I.(1), line five, the word "radioncuclides" is corrected to read "radionuclides".

29. On page 35623, in Appendix A.II.(5), line five, the word "radionculides" is corrected to read "radionuclides".

30. On page 35623, in column one of TABLE A–1, lines 6, 9, and 10, the footnote indicator "1" is corrected to read "*".

31. On page 35625, in column one of TABLE A–1, lines 10, 11, 12, 13, 14, and 15, the footnote indicator "1" is corrected to read "*".

32. On page 35626, in column one of Table A–1, lines 17, 18, 67, 68, 69, 70, 71, 72, 73, and 74, the footnote indicator "1" is corrected to read "*". On line 45 the footnote indicator "2" is corrected to read "**". On line 62 the footnote indicator "3" is corrected to read "***"

33. On page 35625, in columns three and four, lines 71, 72, 74, and 76, the entry is corrected to read, "Unlimited".

34. On page 35626, columns three and four, lines 4, 42, 44, 58, 59, and 61 the entry is corrected to read "Unlimited"

35. On page 35626, column five, line four, "20×10^{-6}" is corrected to read "2.0×10^{-6}"

36. On page 35626, column five, line 44, "2.2×10^{7}" is corrected to read "2.2×10^{-7}"

37. On page 35626, column five, on lines 59 and 61 the entry is corrected to read (SEE TABLE A–4).

38. On page 35626 line 60 is corrected to read:

U (enriched)			
< 20%	Unlimited	Unlimited	(See table A–4)
20% or greater.	100	0.1	(See table A–4)

39. On page 35627, lines one, two, and four, footnote indicators "1", "2", "3", are corrected to read, "*", "**", "***".

40. On page 35627, lines six, seven, eight, and nine, delete footnotes
"4 Unlimited"
"5 Unlimited 100"
"6 Unlimited 0.1"
"7 See Table A–4".

41 On page 35627, Table A–2, in the first column " > 2.0" is corrected to read ">2.0".

42. On page 35627, "TABLE A–." is corrected to read "TABLE A–3.".

43. On page 35627, in TABLE A–4, in the heading of first column, "wt" is deleted from first line and second line is corrected to read, "wt % ^{235}U present"

44. On page 35627, in TABLE A–4, column 2, line 13 "2.2 × 10–7" is corrected to read "2.2×10^{-7}"

Dated at Bethesda, MD this 17th day of August, 1983.

For the Nuclear Regulatory Commission.

Victor Stello, Jr.,

Acting Executive Director for Operations.

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48 FR 45381

Published 10/5/83

Effective 9/6/83

10 CFR Part 71

Rule To Achieve Compatibility With the Transport Regulations of the International Atomic Energy Agency (IAEA)

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule; grant of petitions, correction, partial suspension of effective date.

SUMMARY: In a Federal Register document published on August 5, 1983 (48 FR 35600), the U.S. Nuclear Regulatory Commission (NRC) revised its regulations for the transportation of radioactive material to make them compatible with those of the International Atomic Energy Agency (IAEA) and thus with those of most major nuclear nations of the world. This notice and a subsequent correction notice that was published on August 24, 1983 (48 FR 38449), contained a number of typographical errors, the remainder of which are corrected below. In addition, two petitions for rulemaking, PRM–70–6 and PRM–71–3, are granted.

EFFECTIVE DATE: September 6, 1983. The information collection requirements in §§ 71.5, 71.7, 71.12(c)(3), 71.31, 71.33, 71.35, 71.37, 71.39, 71.81(c), 71.85(c), 71.87 (e) and (f), 71.89, 71.91, 71.93(c), 71.95, 71.97, and 71.101–71.137 are suspended until the Office of Management and Budget (OMB) has completed its review of the information collection requirements. In order to minimize negative impacts through the period before this rule becomes effective, during which there are some inconsistencies between the presently effective regulations of NRC and the Department of Transportation (DOT), the NRC has adopted a policy of flexibility. In practical terms, in those situations where compliance with a new DOT requirement would be in conflict with a current 10 CFR Part 71 requirement, NRC would in most cases accept compliance with the new DOT requirement. NRC would reserve judgment, however, to take enforcement action in an appropriate case.

FOR FURTHER INFORMATION CONTACT: Donald R. Hopkins, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone: 301–443–7878.

SUPPLEMENTARY INFORMATION: Corrections are made to the following pages:

1. On page 35603, as corrected by a document appearing at 48 FR 38449, in column two, just above the first paragraph which begins "On October 1, 1976," insert this paragraph:

On July 18, 1977, Eberline Instrument Corporation petitioned the Commission (PRM–70–6) to approve the air transport of calibration or reference sources which contain not more than five microcuries of plutonium and which are generally licensed pursuant to 10 CFR 70.19, "General license for calibration or reference sources." Air transportation of plutonium has been prohibited by NRC order since August 15, 1975, except when the plutonium is in a medical device for individual human use, or is in a package specifically certified by NRC as air-crash resistant. This final revision of 10 CFR Part 71 at § 71.88 allows the air transport of plutonium in quantities or concentrations small enough to present no significant hazard to the public health and safety even if the plutonium were released in an air crash, thus granting the petition.

2. On page 35603, as corrected by a document appearing at 48 FR 38449, in column two, line five of the paragraph which begins "On October 1, 1976," is corrected to read as follows:

"71, as a Transport Group IV radionuclide (PRM–71–3). Lead-201 decays in a short".

3. On page 35607, the Paperwork Reduction Act Statement at the top of column three is corrected to read as follows:

Paperwork Reduction Act Statement

The information collection requirements in this final rule were not reviewed by the Office of Management and Budget (OMB) at the proposed rule stage because the proposed rule was published prior to April 1, 1981, when the Paperwork Reduction Act became effective. Therefore, the Nuclear Regulatory Commission is submitting this final rule to OMB for any review appropriate under the Act (44 U.S.C. 3501 et seq.). The effective date for the information collection requirements in this rule provides the 60 days required for OMB review.

4. On page 35611, in § 71.18(c), the formula is corrected to read as follows:

$$\text{Minimum Transport Index} = (0.40x + 0.67y + z)\left(1 - \frac{15}{x + y + z}\right).$$

5. On page 35617, in § 71.75(d), line 11, the expression "(1.3×10−^{3}atm cm−^{3}s)" is corrected to read "(1.3×10−^{4}atm cm^{3}/s)."

6. On page 35626, line 60 is corrected to read:

Symbol of radionuclide	Element and atomic number	A_1(Ci)	A_2(Ci)	Specific activity (Ci/g)
* *	* *	*	*	*
u (enriched):				
<20 percent		Unlimited	Unlimited	(See table A–4).
20 percent or greater		100	0.1	(See table A–4).
* *	* *	*	*	*

7. On page 35627, Table A–2, in the first column ">2.0" is corrected to read ">2.0".

8. Sections 71.5, 71.7, 71.12(c)(3), 71.31, 71.33, 71.35, 71.37, 71.39, 71.81(c), 71.85(c), 71.87 (e) and (f), 71.89, 71.91, 71.93(c), 71.95, 71.97, and 71.101–71.137 are suspended.

Dated at Washington, D.C., this 27th day of September 1983.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission.

≫ 48 FR 51903
Published 11/15/83
Effective 11/14/83

10 CFR Part 71

Rule to Achieve Compatibility With the Transport Regulations of the International Atomic Energy Agency (IAEA)

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule; correction; revocation of suspension.

SUMMARY: In a Federal Register document published on August 5, 1983 (48 FR 35600), the U.S. Nuclear Regulatory Commission (NRC) revised its regulations for the transportation of radioactive material to make them compatible with those of the International Atomic Energy Agency (IAEA) and thus with those of most major nuclear nations of the world. That notice and two subsequent correction notices were published on August 24, 1983 (48 FR 38449) and October 5, 1983 (48 FR 45381). The second correction notice also suspended the effective date of all sections in Part 71 that contained information collection requirements. This document corrects the remaining typographical errors and revokes the suspension.

EFFECTIVE DATE: November 14, 1983.

FOR FURTHER INFORMATION CONTACT: Donald R. Hopkins, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone 301–443–7878.

SUPPLEMENTARY INFORMATION: Corrections are made to the following pages:

1. On page 35607, the Paperwork Reduction Act Statement at the top of column three is revised to read as follows:

Paperwork Reduction Act Statement

This final rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). These requirements were approved by the Office of Management and Budget on November 2, 1983: approval number 3150-0008.

2. On page 35611, in § 71.18(c), the formula is corrected to read as follows:

$$\text{Minimum Transport Index} = (0.40x + 0.67y + z)\ \left(1 - \frac{15}{x + y + z}\right)$$

3. On page 35617, in § 71.75(d), line 11, the expression "(1.3×10^{-3} atm cm^{3}s)" is corrected to read "(1.3×10^{-4} atm cm^{3}/s)".

4. On page 35627, Table A–2, in the first column ">2.0" is corrected to read "≧2.0".

5. The suspension of §§ 71.5, 71.7, 71.12(c)(3), 71.31, 71.33, 71.35, 71.37, 71.39, 71.85(c), 71.87 (e) and (f), 71.89, 71.91, 71.93(c), 71.95, 71.97, 71.101–71.137 is revoked.

Dated at Washington, DC, this 7th day of November, 1983.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission

➢ **49 FR 19623**
Published 5/9/84
Effective 5/9/84

Information Collection Requirements;
Display of OMB Control Numbers

See Part 0 Statements of Consideration

PART 72

LICENSING REQUIREMENTS FOR THE STORAGE OF SPENT FUEL IN AN INDEPENDENT SPENT FUEL STORAGE INSTALLATION

Subpart A—General Provisions

Sec.
72.1 Purpose.
72.2 Scope.
72.3 Definitions.
72.4 Communications.
72.5 Interpretations.
72.6 License required; types of licenses.
72.7 Specific exemptions.
72.8 Denial of licensing by agreement states.
72.9 Reporting, recordkeeping, and application requirements: OMB approval not required.
72.10 Employee Protection

Subpart B—License Application, Form, and Contents

72.11 Filing of applications for specific licenses; oath or affirmation.
72.12 Elimination of Repetition.
72.13 Public Inspection of applications.
72.14 Contents of application: General and financial information
72.15 Contents of application: Technical information.
72.16 Contents of application: Technical specifications.
72.17 Contents of application: Applicants' technical qualifications.
72.18 Decommissioning plan, including financing.
72.19 Emergency plan.
72.20 Environmental report.
72.21 Required licensing documents

Subpart C—Issuance and Conditions of Licenses

72.31 Issuance of licenses.
72.32 Duration of license; Renewal.
72.33 License conditions.
72.34 Public hearings.
72.35 Changes, tests, and experiments.
72.36 Transfer of licenses.
72.37 Creditor regulations.
72.38 Applications for termination of licenses.
72.39 Application for amendment of license.
72.40 Issuance of amendment.
72.41 Modification, revocation, and suspension of licenses.
72.42 Backfitting.

Subpart D—Records, Reports, Inspections and Enforcement

72.50 Safety analysis report updating.
72.51 Material balance, inventory and records requirements for stored materials.
72.52 Reports of accidental criticality or loss of special nuclear material.
72.53 Material status reports.
72.54 Nuclear material transfer reports.
72.55 Other records and reports.
72.56 Inspections and tests.
72.57 Violation.

Subpart E—Siting Evaluation Factors

72.61 General Considerations.
72.62 Design basis external natural events.
72.63 Design basis external man-induced events.
72.64 Identifying regions around an ISFSI site.
72.65 Defining potential effects of the ISFSI on the region.
72.66 Geological and Seismological characteristics.
72.67 Criteria for radioactive materials in effluents and direct radiation from an ISFSI.
72.68 Controlled area of an ISFSI.
72.69 ISFSI emergency planning zone.
72.70 Spent fuel transportation.

Subpart F—General Design Criteria

72.71 General considerations.
72.72 Overall requirements.
72.73 Criteria for nuclear criticality safety.
72.74 Criteria for radiological protection.
72.75 Criteria for spend fuel and radioactive waste storage and handling.
72.76 Criteria for decommissioning.

Subpart G—Quality Assurance

72.80 Quality assurance program; records.

Subpart H—Physical Protection

72.81 Physical security plan.
72.82 Design for physical protection.
72.83 Safeguards contingency plan.
72.84 Changes to physical security and safeguards contingency plans.

Subpart I—Training And Certification of ISFSI Personnel

72.91 Operator requirements.
72.92 Operator training and certification program.
72.93 Physical requirements.

Authority: Secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 68 Stat. 929, 930, 932, 933, 934, 935, 948, 953, 954, 955, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2232, 2233, 2234, 2236, 2237, 2282); sec. 274, Pub. L. 86–273, 73 Stat. 688, as amended (42 U.S.C. 2021); sec. 201, 202, 206, 88 Stat. 1242, 1243, 1246, as amended (42 U.S.C. 5841, 5842, 5846); Pub. L. 95–601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851); sec. 102, Pub. L. 91–190, 83 Stat. 853 (42 U.S.C. 4332).

Subpart A—General Provisions

45 FR 74693

§ 72.1 Purpose.

The regulations in this part establish requirements, procedures, and criteria for the issuance of licenses to possess power reactor spent fuel and other radioactive materials associated with spent fuel storage, in an independent spent fuel storage installation (ISFSI), and the terms and conditions under which the Commission will issue such licenses.

§ 72.2 Scope.

46 FR 58281

(a) Except as provided in § 72.6(b), licenses issued under this part are limited to the possession of power reactor spent fuel to be stored in a complex that is designed and constructed specifically for the temporary storage of power reactor spent fuel aged for at least one year, and to the possession of other radioactive materials associated with spent fuel storage.

45 FR 74693

(b) The regulations in this part apply to all persons in the United States, including persons in Agreement States.

(c) The requirements of this regulation are applicable, as appropriate, to both wet and dry modes of storage of spent fuel.

(d) Licenses covering the storage of spent fuel in an existing spent fuel storage facility shall be issued in accordance with the requirements of this part as stated in § 72.31.

§ 72.3 Definitions.

As used in this part: (a) "Act" means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto.

(b) "As low as is reasonably achievable" (ALARA) means as low as is reasonably achievable taking into account the state of technology, and the economics of improvements in relation to (1) benefits to the public health and safety, (2) other societal and socioeconomic considerations, and (3) the utilization of atomic energy in the public interest.

(c) "Atomic energy" means all forms of energy released in the course of nuclear fission or nuclear transformation.

(d) "Byproduct material" means any radioactive material (except special nuclear material) yielded in, or made radioactive by exposure to, the radiation incident to the process of producing or utilizing special nuclear material.

(e) "Commission" means the Nuclear Regulatory Commission or its duly authorized representatives.

(f) "Commencement of construction" means any clearing of land, excavation, or other substantial action that would adversely affect the natural environment of a site, but does not mean:

45 FR 74693

(1) Changes desirable for the temporary use of the land for public recreational uses, necessary borings or excavations to determine subsurface materials and foundation conditions, or other preconstruction monitoring to establish background information related to the suitability of the site or to the protection of environmental values;

(2) Construction of environmental monitoring facilities;

(3) Procurement or manufacture of components of the installation; or

(4) Construction of means of access to the site as may be necessary to accomplish the objectives of sections (1) and (2) above.

(g) "Confinement systems" means those systems, including ventilation, that act as barriers between areas containing radioactive substances and the environment.

(h) "Controlled area" means that area immediately surrounding an ISFSI for which the licensee exercises authority over its use and within which ISFSI operations are performed.

(i) "Design bases" means that information that identifies the specific functions to be performed by a structure, system, or component of a facility and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. These values may be restraints derived from generally accepted "state-of-the-art" practices for achieving functional goals or requirements derived from analysis (based on calculation or experiments) of the effects of a postulated event under which a structure, system, or component must meet its functional goals. The values for controlling parameters for external events include: (1) estimates of severe natural events to be used for deriving design bases that will be based on consideration of historical data on the associated parameters, physical data, or analysis of upper limits of the physical processes involved and (2) estimates of severe external man-induced events to be used for deriving design bases that will be based on analysis of human activity in the region taking into account the site characteristics and the risks associated with the event.

(j) "Design capacity" means the quantity in metric tons of spent fuel, its maximum burnup in MWD/MTU, and the total heat generation in Btu per hour that an ISFSI is designed to accommodate.

(k) "Floodplain" means the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands. Areas subject to a one percent or greater chance of flooding in any given year are included.

45 FR 74693

(l) "Historical data" means a compilation of the available published and unpublished information concerning a particular type of event.

(m) "Independent spent fuel storage installation" (ISFSI) means a complex designed and constructed for the storage of spent fuel and other radioactive materials associated with spent fuel storage. An ISFSI which is located on the site of another facility may share common utilities and services with such a facility and be physically connected with such other facility and still be considered to be independent, *provided* that such sharing of utilities and services or physical connections does not (i) increase the probability or consequences of an accident or malfunction of components, structures or systems that are important to safety; or (ii) reduce the margin of safety as defined in the basis for any technical specifications of either facility."

(n) "ISFSI-emergency planning zone" (ISFSI–EPZ) means that area in the vicinity of an ISFSI within which protective action measures may be needed in the event of an accident at an ISFSI.

(o) "NEPA" means the National Environmental Policy Act of 1969 including any amendments thereto.

(p) "Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Nuclear Regulatory Commission or the Department of Energy (DOE), except that the DOE shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to Section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244); (2) any State; any political subdivision of a state, or any political entity within a State, (3) any foreign government or nation, or any political subdivision of any such government or nation, or other entity; and (4) any legal successor, representative, agent, or agency of the foregoing.

(q) "Population" means the people that may be affected by the change in environmental conditions due to the construction, operation, or decommissioning of an ISFSI.

(r) "Region" means the geographical area surrounding and including the site, which is large enough to contain (1) all the features related to a phenomenon or to a particular event that could potentially impact the safety of the ISFSI and (2) all measurable effects of environmental impact, both radiological and nonradiological, that are due to the construction, operation or decommissioning of an ISFSI.

45 FR 74693

(s) "Site" means the real property on which the ISFSI is located.

(t) "Source material" means (1) uranium or thorium, or any combination thereof, in any physical or chemical form or (2) ores that contain by weight one-twentieth of one percent (0.05%) or more of (i) uranium, (ii) thorium, or (iii) any combination thereof. Source material does not include special nuclear material.

(u) "Special nuclear material" means (1) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing but does not include source material.

(v) "Spent fuel" as used in this Part means irradiated nuclear fuel that has undergone at least one year's decay since being used as a source of energy in a power reactor. Spent fuel includes the special nuclear material, byproduct material, source material, and other radioactive materials associated with fuel assemblies.

(w) "Structures, systems, and components important to safety" means those features of the ISFSI whose function is (1) to maintain the conditions required to store spent fuel safely, (2) to prevent damage to the spent fuel during handling and storage, or (3) to provide reasonable assurance that spent fuel can be received, handled, stored and retrieved without undue risk to the health and safety of the public.

(x) "Temporary storage" means the interim storage, protection, and safeguarding of spent fuel and radioactive materials associated with spent fuel storage, for a limited time only, pending its ultimate disposal.

§ 72.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this Part and applications filed under them should be addressed to The Nuclear Regulatory Commission, Office of Nuclear Materials Safety and Safeguards, Division of Fuel Cycle and Material Safety, Washington, D.C. 20555. Communications, reports, and applications may be delivered in person at the Commission's Offices at 7915 Eastern Avenue, Silver Spring, Maryland, or at 1717 H Street, N.W., Washington, D.C.

§ 72.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission, other than a written interpretation by the General Counsel, will be recognized to be binding upon the Commission.

45 FR 74693

§ 72.6 License required; types of licenses.

(a) Licenses for spent fuel are of two types: general and specific. Any general license provided in this part is effective without the filing of applications with the Commission or the issuance of licensing documents to particular persons. Specific licenses are issued to named persons upon applications filed pursuant to the regulations in this part.

(b) A general license is hereby issued to receive title to and own spent fuel without regard to quantity. Notwithstanding any other provision of this chapter, a general licensee under this paragraph is not authorized to acquire, deliver, receive, possess, use or transfer spent fuel, except as authorized in a specific license.

46 FR 58281

(c) No person may acquire, receive, or possess spent fuel or radioactive material associated with spent fuel for the purpose of storage in an independent spent fuel storage installation except as authorized in a specific license issued by the Commission in accordance with the regulations in this part.

45 FR 74693

§ 72.7 Specific exemptions.

The Commission may, upon application by any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this Part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.

§ 72.8 Denial of licensing by agreement states.

Agreement States may not issue licenses covering the storage of spent fuel in an ISFSI.

§ 72.9 Reporting, recordkeeping, and application requirements: OMB approval not required.

The information collection requirements contained in this part affect fewer than ten persons. Therefore, under section 3506(c)(5) of the Paperwork Reduction Act of 1980 (Pub. L. 96–511), OMB clearance is not required for these information collection requirements.

47 FR 13774

§ 72.10 Employee protection

(a) Discrimination by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant against an employee for engaging in certain protected activities is prohibited. Discrimination includes discharge and other actions that relate to compensation, terms, conditions, and privileges of employment. The protected activities are established in section 210 of the Energy Reorganization Act of 1974, as amended, and in general are related to the administration or enforcement of a requirement imposed under the Atomic Energy Act or the Energy Reorganization Act.

(1) The protected activities include but are not limited to—

(i) Providing the Commission information about possible violations of requirements imposed under either of the above statutes;

(ii) Requesting the Commission to institute action against his or her employer for the administration or enforcement of these requirements; or

(iii) Testifying in any Commission proceeding.

(2) These activities are protected even if no formal proceeding is actually initiated as a result of the employee assistance or participation.

(3) This section has no application to any employee alleging discrimination prohibited by this section who, acting without direction from his or her employer (or the employer's agent), deliberately cause a violation of any requirement of the Energy Reorganization Act of 1974, as amended, or the Atomic Energy Act of 1954, as amended.

(b) Any employee who believes that he or she has been discharged or otherwise discriminated against by any person for engaging in the protected activities specified in paragraph (a)(1) of this section may seek a remedy for the discharge or discrimination through an administrative proceeding in the Department of Labor. The administrative proceeding must be initiated within 30 days after an alleged violation occurs by filing a complaint alleging the violation with the Department of Labor, Employment Standards Administration, Wage and Hour Division. The Department of Labor may order reinstatement, back pay, and compensatory damages.

(c) A violation of paragraph (a) of this section by a Commission licensee, an applicant for a Commission license, or a contractor or subcontractor of a Commission licensee or applicant may be grounds for—

(1) Denial, revocation, or suspension of the license.

(2) Imposition of a civil penalty on the licensee or applicant.

(3) Other enforcement action.

(d) Actions taken by an employer, or others, which adversely affect an employee may be predicated upon nondiscriminatory grounds. The prohibition applies when the adverse action occurs because the employee has engaged in protected activities. An employee's engagement in protected activities does not automatically render him or her immune from discharge or discipline for legitimate reasons or from adverse action dictated by nonprohibited considerations.

(e) Each licensee and each applicant shall post Form NRC-3, "Notice to Employees," on its premises. Posting must be at locations sufficient to permit employees protected by this section to observe a copy on the way to or from their place of work. Premises must be posted not later than 30 days after an application is docketed and remain posted while the application is pending before the Commission, during the term of the license, and for 30 days following license termination.

Note.—Copies of Form NRC-3 may be obtained by writing to the Regional Administrator of the appropriate U.S. Nuclear Regulatory Commission Regional Office listed in Appendix D, Part 20 of this chapter or the Director, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

47 FR 30452

Subpart B—License Application, Form, Contents

§ 72.11 Filing of applications for specific licenses; oath or affirmation.

(a) *Place of filing.* Each application for a license, or amendment thereof, under this Part should be filed with the Director, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Applications, communications, reports and correspondence may also be delivered in person at the Commision's offices at 7915 Eastern Avenue, Silver Spring, Maryland, or at 1717 H Street, NW., Washington, D.C.

(b) *Oath or affirmation.* Each application for a license or license amendment (including amendments to such applications) shall be executed in an original signed by the applicant or duly authorized officer thereof under oath or affirmation.

(c) *Number of copies of applications.* Each filing of an application for a license or license amendment under this Part (including amendments to such applications) shall include, in addition to the signed originals, the documents listed in § 72.21.

45 FR 74693 (d) *Fees.* The application, amendment, and renewal fees applicable to a license covering the storage of spent fuel in an ISFSI are those shown in § 170.31 of this chapter.

§ 72.12 Elimination of repetition.

In any application under this part, the applicant may incorporate by reference information contained in previous applications, statements, or reports filed with the Commission: *Provided,* that such references are clear and specific.

§ 72.13 Public inspection of applications.

Applications and documents submitted to the Commission in connection with applications may be made available for public inspection in accordance with provisions of the regulations contained in Part 2 and Part 9 of this chapter.

§ 72.14 Contents of application: General and financial information.

Each application shall state:

(a) Full name of applicant;

(b) Address of applicant;

(c) Description of business or occupation of applicant;

(d) If applicant is: (1) an individual: citizenship and age;

(2) a partnership: name, citizenship, and address of each partner and the principal location at which the partnership does business;

(3) a corporation or an unincorporated association:

(i) the State in which it is incorporated or organized and the principal location at which it does business; and

(ii) the names, addresses, and citizenship of its directors and principal officers; or

(4) acting as an agent or representative of another person in filing the application: the identification of the principal and the information required under this paragraph with respect to such principal.

(e) Information sufficient to demonstrate to the Commission the financial qualifications of the applicant to carry out, in accordance with the regulations in this chapter, the activities for which the license is sought. This information shall state the place at which the activity is to be performed, the general plan for carrying out the activity, and the period of time for which the license is requested. The information shall show that the applicant either possesses the necessary funds, or that the applicant has reasonable assurance of obtaining the necessary funds; or that by a combination of the two, the applicant will have the necessary funds available to cover the following:

(1) Estimated construction costs;

(2) Estimated operating costs over the planned life of the ISFSI complex; and

45 FR 74693 (3) Estimated shutdown and decommissioning costs, and the necessary financial arrangements to provide reasonable assurance prior to licensing that shutdown, decontamination, and decommissioning will be carried out after the removal of spent fuel from storage.

§ 72.15 Contents of application: Technical information.

(a) Each application for a license under this part shall include a Safety Analysis Report describing the proposed ISFSI for the storage of spent fuel, including how the ISFSI will be operated. The minimum information to be included in this report shall consist of the following:

(1) A description and safety assessment of the site on which the ISFSI is to be located, with appropriate attention to the design bases for external events. Such assessment shall contain an analysis and evaluation of the major structures, systems, and components of the ISFSI that bear on the suitability of the site when the ISFSI is operated at its design capacity. If the proposed ISFSI is to be located on the site of a nuclear power plant or other licensed facility, the potential interactions between the ISFSI and such other facility shall be evaluated.

(2) A description and discussion of the ISFSI structures with special attention to design and operating characteristics, unusual or novel design features, and principal safety considerations.

(3) The design of the ISFSI in sufficient detail to support the findings in § 72.31, including:

(i) The design criteria for the ISFSI pursuant to Subpart F of this Part, with identification and justification for any additions to or departures from the general design criteria;

(ii) The design bases and the relation of the design bases to the design criteria;

(iii) Information relative to materials of construction, general arrangement, dimensions or principal structures, and descriptions of all structures, systems, and components important to safety, in sufficient detail to support a finding that the ISFSI will satisfy the design bases with an adequate margin for safety; and

(iv) Applicable codes and standards.

(4) An analysis and evaluation of the design and performance of structures, systems, and components important to safety, with the objective of assessing the impact on public health and safety resulting from operation of the ISFSI and including determination of:

(i) the margins of safety during normal operations and expected operational occurrences during the life of the ISFSI; and

(ii) the adequacy of structures, systems, and components provided for the prevention of accidents and the mitigation of the consequences of accidents, including natural and man-made phenomena and events.

45 FR 74693 (5) The means for controlling and limiting occupational radiation exposures within the limits given in Part 20 of this chapter, and for meeting the objective of exposures as low as is reasonably achievable.

(6) The features of ISFSI design and operating modes to maintain low waste volumes.

(7) An identification and justification for the selection of those subjects that will be probable license conditions and technical specifications. Such subjects shall cover the design, construction, operation, and decommissioning of the ISFSI.

(8) A plan for the conduct of operations, including the planned managerial and administrative controls system, and the applicant's organization, and program for training of personnel pursuant to Subpart I of this Part.

(9) If the proposed ISFSI incorporates structures, systems, or components important to safety whose functional adequacy or reliability have not been demonstrated by prior use for that purpose or cannot be demonstrated by reference to performance data in related applications or to widely accepted engineering principles—an identification of such structures, systems, or components along with a schedule showing how such safety questions will be resolved prior to the initial receipt of spent fuel for storage at the ISFSI.

(10) The technical qualifications of the applicant to engage in the proposed activities, as required by § 72.17 of this Part.

45 FR 74693

(11) A description of the applicant's plans for coping with emergencies, as required by § 72.19 of this part.

(12) A description of the equipment to be installed to maintain control over radioactive materials in gaseous and liquid effluents produced during normal operations and expected operational occurrences. The description shall identify the design objectives and the means to be used for keeping levels of radioactive material in effluents to the environment as low as is reasonably achievable and within the exposure limits stated in § 72.67 of this part. The description shall include:

(i) An estimate of the quantity of each of the principal radionuclides expected to be released annually to the environment in liquid and gaseous effluents produced during normal ISFSI operations; and prior to the first receipt of spent fuel, a second estimate confirming the original estimate or, if the expected releases and exposures are significantly different from the original estimate;

(ii) A description of the equipment and processes used in radioactive waste systems; and

(iii) A general description of the provisions for packaging, storage, and disposal of solid wastes containing radioactive materials resulting from treatment of gaseous and liquid effluents and from other sources.

(13) An analysis of the potential dose or dose commitment to an individual outside the controlled area from accidents or natural phenomena events that result in the release of radioactive material to the environment or direct radiation from the ISFSI. The calculations of individual dose or dose commitment shall be performed for direct exposure, inhalation, and ingestion occurring as a result of the postulated design basis event.

(14) A description of the quality assurance program to be applied to the design, fabrication, construction, testing, and operation of the structures, systems, and components of the ISFSI important to safety, as required by § 72.80. The description of the quality assurance program shall identify structures, systems and components important to safety and shall show how the criteria in Appendix B to Part 50 of this chapter will be applied to those safety-related components, systems, and structures in a manner consistent with their importance to safety.

(15) A description for the detailed security measures for physical protection, including design features and the plans required by Subpart H of this Part.

(16) A description of the program covering preoperational testing and initial operations.

(17) A description of the decommissioning plan required under § 72.18 of this Part.

45 FR 74693

§ 72.16 Contents of application: Technical specifications.

Each application under this Part shall include proposed technical specifications in accordance with the requirements of § 72.33 and a summary statement of the bases and justifications for these technical specifications.

§ 72.17 Contents of application: Applicant's technical qualifications.

Each application under this Part shall include: (a) The technical qualifications, including training and experience, of the applicant to engage in the proposed activities.

(b) A description of the personnel training program required under Subpart I of this Part.

(c) A description of the applicants' operating organization, delegations of responsibility and authority, and the minimum skills and experience qualifications relevant to the various levels of responsibility and authority.

(d) A commitment by the applicant to have and maintain an adequate complement of trained and certified plant personnel prior to the receipt of spent fuel for storage.

§ 72.18 Decommissioning plan, including financing.

(a) Each application under this part shall include a proposed decommissioning plan that contains sufficient information on proposed practices and procedures for the decontamination of the site and facilities and for disposal of residual radioactive materials after all spent fuel has been removed, in order to provide reasonable assurance that the decontamination and decommissioning of the ISFSI at the end of its useful life will provide adequate protection to the health and safety of the public. This plan shall identify and discuss those design features of the ISFSI that facilitate its decontamination and decommissioning at the end of its useful life.

(b) The decommissioning plan shall include the financial arrangements made by the applicant to provide reasonable assurance that the planned decontamination and decommissioning of the ISFSI will be carried out.

§ 72.19 Emergency plan.

An application to store spent fuel in an ISFSI shall include plans for coping with emergencies. These plans shall contain the elements that are listed in Section IV, "Content of Emergency Plans," of Appendix E to Part 50 of this chapter.

49FR9352

§ 72.20 Environmental report.

Each application for a license under this part shall be accompanied by an Environmental Report which meets the requirements of Subpart A of Part 51 of this chapter.

45 FR 74693

§ 72.21 Required licensing documents.

Section	Document	No. of copies	Signed originals
72.14	License Application	25	3
72.15	Safety Analysis Report [a].	70	
72.18	Decommissioning Plan [a].	25	
72.19	Emergancy Plan [a]	25	
72.20	Environmental Report [a].	150	
72.35(b)	Report of ISFSI Design and Procedures Changes.	25	3
72.36(b)	Application for Transfer of License.	25	3
72.38	Application for Termination of License.	25	3
72.39	Amendment to License.	25	3
72.80	Quality Assurance Program [a].	25	
72.81	Physical Security Plan [a] [b].	10	
72.82	Design for Physical Protection [a] [b].	10	
72.83	Safeguards Contingency Plan [a] [b].	10	
72.84	Changes to Physical Security and Contingency Plans.	10	
72.92	Personnel Training Program [a].	25	

[a] Submitted with license application.
[b] Physical protection plans will be withheld from public disclosure by the NRC.

Subpart C—Issuance and Conditions of Licenses

§ 72.31 Issuance of licenses.

(a) Except as provided in paragraph (c) of this section, the Commission will issue a license under this Part upon a determination that the application for a license meets the standards and requirements of the Act and the regulations of the Commission, and upon finding that:

(1) The applicant's proposed ISFSI design complies with Subpart F of this part;

(2) The proposed site complies with the criteria in Subpart E of this Part;

(3) If on the site of a nuclear power plant or other licensed activity or facility, the proposed ISFSI would not pose an undue risk to the safe operation of such nuclear power plant or other licensed activity or facility;

(4) The applicant is qualified by reason of training and experience to conduct the operation covered by the regulations in this Part;

(5) The applicant's proposed operating procedures to protect health and to minimize danger to life or property are adequate:

(6) The applicant is financially qualified to engage in the proposed activities in accordance with the regulations in this Part;

(7) The applicant's quality assurance plan complies with Subpart G of this Part;

(8) The applicant's physical protection provisions comply with Subpart H of this Part;

(9) The applicant's personnel training program complies with Subpart I of this Part;

(10) The applicant's decommissioning plan and its financing pursuant to § 72.18 of this Part provide reasonable assurance that the decontamination and decommissioning of the ISFSI at the end of its useful life will provide adequate protection to the health and safety of the public;

(11) The applicant's emergency plan complies with § 72.19 of this Part;

(12) The applicable provisions of Part 170 of this chapter have been satisfied;

(13) There is reasonable assurance that (i) the activities authorized by the license can be conducted without endangering the health and safety of the public and (ii) such activities will be conducted in compliance with the applicable regulations of this Chapter; and

(14) The issuance of the license will not be inimical to the common defense and security.

45 FR 74693

(b) Grounds for denial of a license to store spent fuel in the proposed ISFSI may be commencement of construction prior to a conclusion or finding by the Director of the Office of Nuclear Material Safety and Safeguards or his designee, or after a public hearing by the presiding officer, Atomic Safety and Licensing Board, Atomic Safety and Licensing Appeal Board, or the Commission acting as a collegial body, **as appropriate, on the basis of** information filed and evaluations made **pursuant to Subpart A of Part 51 of this chapter, and after weighing the** environmental, economic, technical and **other benefits against environmental costs and considering available alternatives, that the action called for is the issuance of the proposed license with any appropriate conditions to** protect environmental values.

49 FR 9352

(c) For facilities that have been covered under previous licensing actions including the issuance of a Construction Permit under Part 50 of this chapter, a reevaluation of the site is not required except where new information is discovered which could alter the original site evaluation findings. In this case, the site evaluation factors involved will be reevaluated.

45 FR 74693

§ 72.32 Duration of license; renewal.

(a) Each license issued under this Part shall be for a fixed period of time to be specified in the license but not to exceed 20 years from the date of issuance. Licenses may be renewed by the Commission at the expiration of that period upon application of the licensee.

(b) Applications for renewal of a license should be filed in accordance with the applicable provisions of Subpart B of this Part at least two years prior to the expiration of the existing license. Information contained in previous applications, statements, or reports filed with the Commission under the license may be incorporated by reference: *Provided*, that such references are clear and specific.

(c) In any case in which a licensee, not less than 2 years prior to expiration of his existing license, has filed an application in proper form for renewal of a license, such existing license shall not expire until a final decision concerning the application for renewal has been made by the Commission.

§ 72.33 License conditions.

(a) Each license issued under this part shall include license conditions. The license conditions may be derived from the analyses and evaluations included in the safety analysis report and amendments thereto submitted pursuant to § 72.15 of this part. License conditions pertain to design, construction and operation. The Commission may also include such additional license conditions as it finds appropriate.

45 FR 74693

(b) Every license issued under this Part shall be subject to the following conditions, even if they are not explicitly stated therein:

(1) Neither the license nor any right thereunder shall be transferred, assigned, or disposed of in any manner, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission shall, after securing full information, find that the transfer is in accordance with the provisions of the Atomic Energy Act and give its consent in writing.

(2) The license shall be subject to revocation, suspension, modification, or amendment in accordance with the procedures provided by the Atomic Energy Act and Commission regulations.

(3) Upon request of the Commission, the licensee shall, at any time before expiration of the license, submit written statements, signed under oath or affirmation, to enable the Commission to determine whether or not the license should be modified, suspended, or revoked.

(4) Prior to the receipt of spent fuel for storage at an ISFSI, the licensee shall have in effect an NRC-approved program covering the training and certification of ISFSI personnel that meets the requirements of Subpart I of this Part.

(5) The licensee shall permit the operation of the safety-related equipment and controls of the ISFSI only by personnel whom the licensee has certified as being adequately trained to perform such operations, or by uncertified personnel who are under the direct visual supervision of a certified individual.

(c) Technical specifications submitted pursuant to § 72.16 of this Part shall include requirements in the following categories:

(1) Functional and operating limits and monitoring instruments and limiting control settings. (i) Functional and operating limits for an ISFSI are limits on fuel handling and storage conditions that are found to be necessary to protect the integrity of the stored fuel, to protect employees against occupational exposures and to guard against the uncontrolled release of radioactive materials. (ii) Monitoring instruments and limiting control settings for an ISFSI are those related to fuel handling and storage conditions having significant safety functions.

45 FR 74693

(2) Limiting conditions. Limiting conditions are the lowest functional capability or performance levels of equipment required for safe operation.

(3) Surveillance requirements. Surveillance requirements include: (i) inspections of spent fuel in storage and monitoring; (ii) inspection, test and calibration activities to ensure that the necessary integrity of required systems, components and the spent fuel in storage is maintained; (iii) confirmation that operation of the ISFSI is within the required functional and operating limits; and (iv) a confirmation that the limiting conditions required for safe storage are met.

(4) Design features. Design features include items that would have a significant effect on safety if altered or modified, such as materials of construction and geometric arrangements.

(5) Administrative controls. Administrative controls include the organization and management procedures, recordkeeping, review and audit, and reporting necessary to assure that the operations involved in the storage of spent fuel in an ISFSI are performed in a safe manner.

(d) Each license authorizing the storage of spent fuels under this Part shall include technical specifications that, in addition to stating the limits on the release of radioactive materials for compliance with limits of Part 20 of this chapter and the "as low as is reasonably achievable objectives" for effluents, require that:

(1) Operating procedures for control of effluents be established and followed, and equipment in the radioactive waste treatment systems be maintained and used, to meet the requirements of § 72.67 of this Part;

(2) An environmental monitoring program be established to ensure compliance with the technical specifications for effluents; and

(3) An annual report be submitted to the appropriate regional office specified in Appendix D of Part 20 of this Chapter, with a copy to the Director, Office of Nuclear Material Safety and Safeguards, within 60 days after January 1 of each year, specifying the quantity of each of the principal radionuclides released to the environment in liquid and in gaseous effluents during the previous 12 months of operation and such other information as may be required by the Commission to estimate maximum potential radiation dose commitment to the public resulting from effluent releases. On the basis of such reports and any additional information the Commission may obtain from the licensee or others, the Commission may from time to time require the licensee to take such action as the Commission deems appropriate. 45 FR 74693

(e) The licensee shall make no change that would decrease the effectiveness of the physical security plan prepared pursuant to § 72.81 of this Part without the prior approval of the Commission. A licensee desiring to make such a change shall submit an application for an amendment to the license pursuant to § 72.39 of this Part. A licensee may make changes to the physical security plan without prior Commission approval, provided that such changes do not decrease the effectiveness of the plan. The licensee shall furnish to the Commission a report containing a description of each change within two months after the change is made, and shall maintain records of changes to the plan made without prior Commission approval for a period of two years from the date of the change.

(f) A licensee shall follow and maintain in effect an emergency plan that is approved by the Commission. The licensee may make changes to the approved plan without Commission approval only if such changes do not decrease the effectiveness of the plan, and if the plan, as changed, continues to contain the elements of Section IV of Appendix E of 10 CFR Part 50. Within six months after any such change is made, the licensee shall submit a report containing a description of any changes made in the plan to the appropriate NRC regional office specified in Appendix D to Part 20 of this chapter with a copy to the Director, Office of Nuclear Material Safety and Safeguards. Proposed changes that decrease the effectiveness of the approved emergency plan shall not be implemented unless the licensee has received prior approval of such changes from the Commission.

§ 72.34 Public hearings.

(a) In connection with each application for a license or an amendment to a license under this Part, the Commission shall issue or cause to be issued a notice of hearing in accordance with § 2.104, or a notice of proposed action in accordance with § 2.105, of this chapter, as appropriate. Except as provided in paragraph (b) of this section, a hearing may not be held until after 30 days' notice and publication once in the **Federal Register.**

(b) In the absence of a request for hearing by any person whose interest may be affected, the Commission may issue a license or an amendment to a license without a hearing upon 30 days notice and publication once in the **Federal Register** of its intent to do so. The Commission may dispense with such 30 days' notice and publication with respect to an application for an amendment to a license issued under this Part upon a determination by the Commission that the amendment does not involve a significant hazards consideration or an unreviewed safety question. 45 FR 74693

§ 72.35 Changes, tests and experiments.

(a)(1) The holder of a license issued under this Part may, without prior Commission approval unless the proposed change, test or experiment involves a change in the license conditions incorporated in the license, an unreviewed safety question, significant increase in occupational exposure or a significant unreviewed environmental impact: (i) make changes in the ISFSI described in the Safety Analysis Report, (ii) make changes in the procedures described in the Safety Analysis Report, or (iii) conduct tests or experiments not described in the Safety Analysis Report.

(2) A proposed change, test, or experiment shall be deemed to involve an unreviewed safety question (i) if the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report may be increased; (ii) if a possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report may be created; or (iii) if the margin of safety as defined in the basis for any technical specification is reduced.

(b)(1) The licensee shall maintain records of changes in the ISFSI and of changes in procedures made pursuant to this section if such changes constitute changes in the ISFSI or procedures described in the Safety Analysis Report. The licensee shall also maintain records of tests and experiments carried out pursuant to paragraph (a) of this section. These records shall include a written safety evaluation that provides the bases for the determination that the change, test, or experiment does not involve an unreviewed safety question. The records of changes in the ISFSI and of changes in procedures and records of tests shall be maintained for the lifetime of the ISFSI.

(2) Annually, or at such shorter interval as may be specified in the license, the licensee shall furnish to the appropriate regional office, specified in Appendix D of Part 20 of this chapter, with a copy to the Director, Office of Nuclear Material and Safeguards, a report containing a brief description of such changes, tests, and experiments, including a summary of the safety evaluation of each. Any report submitted by a licensee pursuant to this paragraph will be made a part of the public record pertaining to this license. 45 FR 74693

(c) The holder of a license issued under this Part who desires (1) to change the license conditions, (2) to change the ISFSI or the procedures described in the Safety Analysis Report, or (3) to conduct tests or experiments not described in the Safety Analysis Report that involve an unreviewed safety question, a significant increase in occupational exposure, or significant unreviewed environmental impact, shall submit an application for amendment of the license, pursuant to § 72.39 of this Part.

§ 72.36 Transfer of licenses.

(a) No license or any right included in a license issued under this Part shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission gives its consent in writing.

(b)(1) An application for transfer of a license shall include as much of the information described in §§ 72.14 and 72.17 of this Part with respect to the identity and the technical and financial qualifications of the proposed transferee as would be required by those sections if the application were for an initial license. The application shall also include a statement of the purposes for which the transfer of the license is requested and the nature of the transaction necessitating or making desirable the transfer of the license.

(2) The Commission may require any person who submits an application for the transfer of a license pursuant to the provisions of this section to file a written consent from the existing licensee, or a certified copy of an order or judgment of a court of competent jurisdiction, attesting to the person's right—subject to the licensing requirements of the Act and these regulations—to possession of the spent fuel and the ISFSI involved.

(c) After appropriate notice to interested persons, including the existing licensee, and observance of such procedures as may be required by the Act or regulations or orders of the Commission, the Commission will approve an application for the transfer of a license, if the Commission determines:

(1) That the proposed transferee is qualified to be the holder of the license; and

45 FR 74693 (2) That transfer of the license is consistent with applicable provisions of the law, and the regulations and orders issued by the Commission pursuant thereto.

§ 72.37 Creditor regulations.

(a) Pursuant to section 184 of the Act, the Commission consents, without individual application, to the creation of any mortgage, pledge, or other lien on special nuclear material contained in spent fuel not owned by the United States that is the subject of a license or on any interest in such special nuclear material in spent fuel: *Provided:*

(1) That the rights of any creditor so secured may be exercised only in compliance with and subject to the same requirements and restrictions as would apply to the licensee pursuant to the provisions of the license, the Atomic Energy Act of 1954, as amended, and regulations issued by the Commission pursuant to said Act; and

(2) That no creditor so secured may take possession of the spent fuel pursuant to the provisions of this section prior to either the issuance of a license from the Commission authorizing such possession or the transfer of the license.

(b) Any creditor so secured may apply for transfer of the license covering such spent fuel by filing an application for transfer of the license pursuant to § 72.36(b). The Commission will act upon such application pursuant to § 72.36(c).

(c) Nothing contained in this regulation shall be deemed to affect the means of acquiring, or the priority of, any tax lien or other lien provided by law.

(d) As used in this section, "creditor" includes, without implied limitation, the trustee under any mortgage, pledge, or lien on spent fuel in storage made to secure any creditor; any trustee or receiver of such spent fuel appointed by a court of competent jurisdiction in any action brought for the benefit of any creditor secured by such mortgage, pledge, or lien; any purchaser of such spent fuel at the sale thereof upon foreclosure of such mortgage, pledge, or lien or upon exercise of any power of sale contained therein; or any assignee of any such purchaser.

§ 72.38 Applications for termination of licenses.

(a) The licensee shall apply to the Commission for authority to surrender a license voluntarily and to decommission the ISFSI and dispose of the materials stored therein. The Commission may require information, including information as to proposed procedures for the disposal of radioactive material and decontamination of the site, to determine whether there is reasonable assurance that the decommissioning and disposal will be performed in accordance with the regulations in this chapter and will not be inimical to the common defense and security or to the health and safety of the public. 45 FR 74693

(b) Upon a finding of reasonable assurance that the decommissioning of the ISFSI and disposal of the materials stored therein will be performed in accordance with the regulations in this chapter and will provide adequate protection to the health and safety of the public, and after notice to interested persons, the Commission will authorize such decommissioning and disposal and terminate the license upon completion of such procedures in accordance with any conditions specified in the authorization.

§ 72.39 Application for amendment of license.

Whenever a holder of a license desires to amend the license, an application for an amendment shall be filed with the Commission fully describing the changes desired and the reasons for such changes, and following as far as applicable the form prescribed for original applications.

§ 72.40 Issuance of amendment.

In determining whether an amendment to a license will be issued to the applicant, the Commission will be guided by the considerations that govern the issuance of initial licenses.

§ 72.41 Modification, revocation, and supension of licenses.

(a) The terms and conditions of all licenses are subject to amendment, revision, or modification by reason of amendments to the Atomic Energy Act of 1954, or by reason of rules, regulations, or orders issued in accordance with the Act or any amendments thereto.

(b) Any license may be modified, revoked, or suspended in whole or in part for any of the following: (1) for any material false statement in the application or in any statement of fact required under Section 182 of the Act; (2) conditions revealed by such application or statement of fact or any report, record, inspection or other means which would warrant the Commission to refuse to grant a license on an original application; (3) failure to operate an ISFSI in accordance with the terms of the license; (4) violation of, or failure to observe any of, the terms and conditions of the Act, or of any applicable regulation, license, or order of the Commission.

45 FR 74693 (c) Upon revocation of a license, the Commission may immediately cause the retaking of possession of all special nuclear material contained in spent fuel held by the licensee. In cases found by the Commission to be of extreme importance to the national defense and security or to the health and safety of the public, the Commission prior to following any of the procedures provided under sections 551–558 of title 5 of the United States Code, may cause the taking of possession of any special nuclear material contained in spent fuel held by the licensee.

§ 72.42 Backfitting.

(a) The Commission may require the backfitting of an ISFSI if it finds that such action will provide substantial additional protection to the environment, or occupational or public health and safety. As used in this section, "backfitting" means the addition, elimination, or modification of structures, systems, or components of an ISFSI after the license has been issued.

(b) The Commission may at any time require a holder of a license to submit such information concerning the backfitting or the proposed backfitting of the ISFSI as it deems appropriate.

Subpart D—Records, Reports, Inspections, and Enforcement

§ 72.50 Safety analysis report updating.

(a) The design, description of planned operations, and other information submitted in the Safety Analysis Report shall be updated by the licensee and submitted to the Commission at least once every six months after issuance of the license during final design and construction, until preoccupational testing is completed, with final completion and submittal to the Commission at least 90 days prior to the planned receipt of spent fuel. This final submittal shall include a final analysis and evaluation of the design and performance of structures, systems, and components that are important to safety taking into account any pertinent information developed since the submittal of the license application. Changes affecting safety margins will require Commission approval prior to the receipt of spent fuel.

(b) After the first receipt of spent fuel for storage, the Safety Analysis Report shall be updated annually and submitted to the Commission by the licensee. This submittal shall include the following:

(1) New or revised information relating to applicable site evaluation factors, including the results of environmental monitoring programs.

(2) A description and analysis of changes in the structures, systems, and components of the ISFSI, with emphasis upon (i) performance requirements, (ii) the bases, with technical justification therefor, upon which such requirements have been established, and (iii) evaluations showing that safety functions will be accomplished. 45 FR 74693

(3) An analysis of the significance of any changes to codes, standards, regulations, or regulatory guides which the licensee has committed to meeting the requirements that are applicable to the design, construction, or operation of the ISFSI.

§ 72.51 Material balance, inventory, and records requirements for stored materials.

(a) Each licensee shall keep records showing the receipt, inventory (including location), disposal, acquisition, and transfer of all spent fuel in storage.

(b) Each licensee shall conduct a physical inventory of all spent fuel in storage at intervals not to exceed twelve months unless otherwise directed by the Commission.

(c) Each licensee shall establish, maintain, and follow written material control and accounting procedures that are sufficient to enable the licensee to account for the spent fuel in storage.

(d) Records of spent fuel in storage shall be kept in duplicate. The duplicate set of records shall be kept at a separate location sufficiently remote from the original records that a single event would not destroy both sets of records. Records of spent fuel transferred out of an ISFSI shall be preserved for a period of five years after the date of transfer.

§ 72.52 Reports of accidental criticality or loss of special nuclear material.

Each licensee shall report immediately to the appropriate NRC regional Office specified in Appendix D of Part 20 of this chapter by telephone and telegram or teletype, any case of accidental criticality and any loss of special nuclear material. 45 FR 74693

§ 72.53 Material status reports.

(a) Except as provided in paragraph (b) of this section, each licensee shall complete and submit Material Status Reports to the Commission on Form NRC-742, in accordance with printed instructions for completing the form. The reports shall provide information concerning the special nuclear material contained in spent fuel possessed, received, transferred, disposed of, or lost by the licensee. All such reports shall be made as of March 31 and September 30 of each year and shall be filed with the U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830, within 30 days after the end of the period covered by the report. The Commission may, when good cause is shown, permit a licensee to submit Material Status Reports at other times.

(b) Any licensee who is required to submit routine material status reports pursuant to § 75.35 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit such reports only as provided in that section. 46 FR 36119

§ 72.54 Nuclear material transfer reports.

(a) Except as provided in paragraph (b) of this section, whenever the licensee transfers or receives spent fuel, the licensee shall complete and distribute a Nuclear Material Transaction Report on Form NRC-741. Each licensee who transfers spent fuel shall submit a copy of Form NRC-741 to the U.S. Department of Energy, P.O. Box E, Oak Ridge, Tennessee 37830, and three copies to the receiver of the material promptly after the transfer takes place. Each licensee who receives spent fuel shall submit a copy of Form NRC-741 to the Department of Energy and to the shipper of the material within 10 days after the spent fuel is received and unloaded and its identity is verified.

(b) Any licensee who is required to submit inventory change reports on DOE/NRC Form-741 pursuant to § 75.34 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit such reports only as provided in that section.

§ 72.55 Other records and reports.

(a) Each licensee shall maintain any records and make any reports that may be required by the conditions of the license or by the rules, regulations, and orders of the Commission in effectuating the purposes of the Act.

(b) Each licensee shall furnish a copy of its annual financial report, including the certified financial statements, to the Commission.

(c) Records that are required by the regulations in this part or by the license conditions shall be maintained for the period specified by the appropriate regulation or license condition. If a retention period is not otherwise specified, such records shall be maintained until the Commission authorizes their disposition.

(d) Any record that must be maintained pursuant to this Part may be either the original or a reproduced copy or microform provided that any reproduced copy or microform is duly authenticated by authorized personnel and that the microform is capable of producing a clear and legible copy after storage for the period specified by commission regulations. 45 FR 74693

§ 72.56 Inspections and tests.

(a) Each licensee under this part shall permit inspection by duly authorized representatives of the Commission of his records, premises, activities and of spent fuel in possession related to the specific license as may be necessary to effectuate the purposes of the Act, including Section 105 of the Act.

(b) Each licensee under this Part shall make available to the Commission for inspection, upon reasonable notice, records kept by the licensee pertaining to his receipt, possession, or transfer of spent fuel.

(c)(1) Each licensee under this Part shall upon request by the Director, Office of Inspection and Enforcement provide rent-free office space for the exclusive use of the Commission inspection personnel. Heat, air conditioning, light, electrical outlets and janitorial services shall be furnished by each licensee. The office shall be convenient to and have full access to the installation and shall provide the inspector both visual and acoustic privacy.

(2) For a site with a single storage installation the space provided shall be adequate to accommodate a full-time inspector, a part-time secretary and transient NRC personnel and will be generally commensurate with other office facilities at the site. A space of 250 sq. ft., either within the site's office complex or in an office trailer, or other

on site space, is suggested as a guide. For sites containing multiple facilities additional space may be requested to accommodate additional full-time inspectors. The office space that is provided shall be subject to the approval of the Director, Office of Inspection and Enforcement. All furniture, supplies and Commission equipment shall be furnished by the Commission.

45 FR 74693

(3) Each licensee under this Part shall afford any NRC resident inspector assigned to that site, or other NRC inspectors identified by the Regional **Administrator** as likely to inspect the installation, immediate unfettered access, equivalent to access provided regular plant employees, following proper identification and compliance with applicable access control measures for security, radiological protection and personal safety.

47 FR 41336

(d) Each licensee shall perform, or permit the Commission to perform, such tests as the Commission deems appropriate or necessary for the administration of the regulations in this part.

(e) A report of the preoperational test acceptance criteria and test results shall be submitted to the appropriate regional office specified in Appendix D of Part 20 of this chapter with a copy to the Director, Office of Nuclear Material Safety and Safeguards at least 30 days prior to the receipt of spent fuel.

§ 72.57 Violation.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or title II of the Energy Reorganization Act of 1974, as amended, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Atomic Energy Act for violation of §§ 53, 57, 62, 63, 81, or 82 of the Atomic Energy Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Atomic Energy Act. Any person who willfully violates any provision of the Atomic Energy Act, or any regulation or order issued thereunder, may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

45 FR 74693

Subpart E—Siting Evaluation Factors

§ 72.61 General considerations.

(a) Site characteristics that may directly affect the safety or environmental impact of the ISFSI shall be investigated and assessed.

(b) Proposed sites for the ISFSI shall be examined with respect to the frequency and the severity of external natural and man-induced events that could affect the safe operation of the ISFSI.

(c) Design basis external events shall be determined for each combination of proposed site and proposed ISFSI design.

(d) Proposed sites with design basis external events for which adequate protection cannot be provided through ISFSI design shall be deemed unsuitable for the location of the ISFSI.

45 FR 74693

(e) For each proposed site, pursuant to Subpart A of Part 51 of this chapter, the potential for radiological and other environmental impacts on the region shall be evaluated with due consideration of the characteristics of the population, including its distribution, and of the regional environs, including its historical and esthetic values.

49 FR 9352

(f) The facility shall be sited so as to avoid to the extent possible the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains.

§ 72.62 Design basis external natural events.

(a) Natural phenomena that may exist or that can occur in the region of a proposed site shall be identified and assessed according to their potential effects on the safe operation of the ISFSI. The important natural phenomena that affect the ISFSI design shall be identified.

(b) Records of the occurrence and severity of those important natural phenomena shall be collected for the region and evaluated for reliability, accuracy, and completeness.

(c) Appropriate methods shall be adopted for evaluating the design basis natural events based on the characteristics of the region and the current state of knowledge about such events.

§ 72.63 Design basis external man-induced events.

(a) The region shall be examined for both past and present man-made facilities and activities that might endanger the proposed ISFSI. The important potential man-induced events that affect the ISFSI design shall be identified.

(b) Information concerning the potential occurrence and severity of such events shall be collected and evaluated for reliability, accuracy, and completeness.

(c) Appropriate methods shall be adopted for evaluating the design basis external man-induced events, based on the current state of knowledge about such events.

§ 72.64 Identifying regions around an ISFSI site.

(a) The regional extent of external phenomena, man-made or natural, that are used as a basis for the design of the ISFSI shall be defined.

(b) The potential regional impact due to the construction, operation or decommissioning of the ISFSI shall be identified. The extent of such regional impacts shall be determined on the basis of potential measurable effects on the population or the environment, from ISFSI activities.

(c) Those regions identified pursuant to paragraphs (a) and (b) of this section shall be investigated as appropriate with respect to (1) the present and future character and the distribution of population, (2) consideration of present and projected future uses of land and water within the region, and (3) any special characteristics that may influence the potential consequences of a release of radioactive material during the operational lifetime of the ISFSI.

(d) If the distribution of population in any defined region is such that adquate protective action cannot be provided through emergency planning the proposed site shall be unsuitable for the location of an ISFSI.

§ 72.65 Defining potential effects of the ISFSI on the region.

(a) The proposed site shall be evaluated with respect to the effects on populations in the region resulting from the release of radioactive materials under normal and accident conditions during operation and decommissioning of the ISFSI; in this evaluation both usual and unusual regional and site characteristics shall be taken into account.

(b) Each site shall be evaluated with respect to the effects on the regional environment resulting from construction, operation and decommissioning of the ISFSI; in this evaluation both usual and unusual regional and site characteristics shall be taken into account.

45 FR 74693

§ 72.66 Geological and seismological characteristics.

(a) *Massive Water Basin and Air-Cooled Canyon Types of ISFSI Structures:*

(1) East of the Rocky Mountain Front (east of approximately 104° west longitude), except in areas of known seismic activity including but not limited to the regions around New Madrid, Mo., Charleston, S.C., and Attica, N.Y., sites will be acceptable if the results from onsite foundation and geological investigation, literature review, and regional geological reconnassiance show no unstable geological charactertisics, soil stability problems, or potential for vibratory ground motion at the site in excess of an appropriate response spectrum anchored at 0.2 g.

(2) West of the Rocky Mountain Front (west of approximately 104° west longitude), and in other areas of known potential seismic activity, seismicity will be evaluated by the techniques of Appendix A of Part 100 of this chapter. Sites that lie within the range of strong near-field ground motion from historical earthquakes on large capable faults should be avoided.

(3) Sites other than bedrock sites shall be evaluated for their liquefaction potential or other soil instability due to vibratory ground motion.

(4) Site-specific investigations and laboratory analyses must show that soil conditions are adequate for the proposed foundation loading.

45 FR 74693

(5) In an evaluation of alternative sites, those which require a minimum of engineered provisions to correct site deficiencies are preferred. Sites with unstable geologic characteristics should be avoided.

(6) The ISFSI design earthquake (ISFSI–DE) for use in the design of structures shall be determined as follows:

(i) For sites that have been evaluated under the criteria of Appendix A of 10 CFR Part 100, the ISFSI–DE shall be equivalent to the safe shutdown earthquake (SSE) for a nuclear power plant.

(ii) For those sites that have not been evaluated under the criteria of Appendix A of 10 CFR Part 100, that are east of the Rocky Mountain Front, and that are not in areas of known seismic activity, a standardized ISFSI–DE described by an appropriate response spectrum anchored at 0.25 g may be used. Alternatively, a site-specific ISFSI–DE may be determined by using the criteria and level of investigations required by Appendix A of Part 100 of this chapter.

(iii) Regardless of the results of the investigations anywhere in the continental U.S., the ISFSI–DE shall have a value for the horizontal ground motion of no less than 0.10 g with the appropriate response spectrum.

(b) *Other types of ISFSI Designs.* For ISFSI designs that do not use massive water basins or air-cooled canyons, such as canisters, casks, or silos, a site specific investigation is required to establish site suitability commensurate with the specific requirements of the proposed ISFSI.

§ 72.67 Criteria for radioactive materials in effluents and direct radiation from an ISFSI.

(a) During normal operations and anticipated occurrences, the annual dose equivalent to any real individual who is located beyond the controlled area shall not exceed 25 mrem to the whole body, 75 mrem to the thyroid and 25 mrem to any other organ as a result of exposure to (1) planned discharges of radioactive materials, radon and its daughters excepted, to the general environment, (2) direct radiation from ISFSI operations and (3) any other radiation from uranium fuel cycle operations within the region.

(b) Operational restrictions shall be established to meet as low as is reasonably achievable objectives for radioactive materials in effluents and direct radiation levels associated with ISFSI operations.

(c) Operational limits shall be established for radioactive materials in effluents and direct radiation levels associated with ISFSI operations to meet the limits given in paragraph (a) of this section.

45 FR 74693

§ 72.68 Controlled area of an ISFSI.

(a) For each ISFSI site, a controlled area shall be established.

(b) Any individual located on or beyond the nearest boundary of the controlled area shall not receive a dose greater than 5 rem to the whole body or any organ from any design basis accident. The minimum distance from the spent fuel handling and storage facilities to the nearest boundary of the controlled area shall be at least 100 meters.

(c) The controlled area may be traversed by a highway, railroad or waterway, so long as appropriate and effective arrangements are made to control traffic and to protect the public health and safety.

72.69 ISFSI emergency planning zone.

(a) For each ISFSI site, an ISFSI Emergency Planning Zone (ISFSI–EPZ) shall be established. The ISFSI–EPZ shall provide reasonable assurance that protective actions beyond its outer boundary would not be necessary.

(b) The boundaries of an ISFSI–EPZ for a particular ISFSI will be determined on a case-by-case basis taking into account both the characteristics of the specific facility and local conditions such as demography, topography, land characteristics, access routes and local jurisdictional boundaries.

§ 72.70 Spent fuel transportation.

The proposed ISFSI shall be evaluated with respect to the potential impact on the environment of spent fuel being transported into the area.

Subpart F—General Design Criteria

§ 72.71 General Considerations.

Pursuant to the provisions of § 72.15 of this Part, an application to store spent fuel in an ISFSI must include the design criteria for the proposed storage complex. These design criteria establish the design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety as defined in § 72.3. The general design criteria identified in this section establish minimum requirements for the design criteria for an ISFSI. Any omissions in these general design criteria do not relieve the applicant from the requirement of providing the necessary safety features in the design of the ISFSI.

§ 72.72 Overall requirements.

(a) *Quality Standards.*—Structures, systems, and components important to safety shall be designed, fabricated, erected, and tested to quality standards commensurate with the importance to safety of the function to be performed.

45 FR 74693

(b) *Protection against environmental conditions and natural phenomena.*—(1) Structures, systems, and components important to safety shall be designed to accommodate the effects of, and to be compatible with, site characteristics and environmental conditions associated with normal operation, maintenance, and testing of the ISFSI; and to withstand postulated accidents.

(2) Structures, systems, and components important to safety shall be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, lightning, hurricanes, floods, tsunami, and seiches, without impairing their capability to perform safety functions. The design bases for these structures, systems, and components shall reflect (i) appropriate consideration of the most severe of the natural phenomena reported for the site and surrounding area, with appropriate margins to take into account the limitations of the data and the period of time in which the data have accumulated, and (ii) appropriate combinations of the effects of normal and accident conditions and the effects of natural phenomena. An ISFSI need

not be protected from tornado missiles but should be designed to prevent massive collapse of building structures or the dropping of heavy objects on to the stored spent fuel as a result of building structural failures.

(3) Capability shall be provided for determining the intensity of natural phenomena that may occur for comparison with design bases of structures, systems, and components important to safety.

(4) If the ISFSI is located over an aquifer which is a major water resource, measures shall be taken to preclude the transport of radioactive materials to the environment through this potential pathway.

(c) *Protection Against Fires and Explosions.*

Structures, systems, and components important to safety shall be designed and located so that they can continue to perform their safety functions effectively under credible fire and explosion exposure conditions. Noncombustible and heat-resistant materials shall be used wherever practical throughout the ISFSI, particularly in locations vital to the control of radioactive materials and to the maintenance of safety control functions. Explosion and fire detection, alarm, and suppression systems shall be designed and provided with sufficient capacity and capability to minimize the adverse effects of fires and explosions on structures, systems, and components important to safety. The design of the ISFSI shall include provisions to protect against adverse effects that might result from either the operation or the failure of the fire suppression system.

45 FR 74693

(d) *Sharing of structures, systems, and components.*—Structures, systems, and components important to safety shall not be shared between an ISFSI and other facilities unless it is shown that such sharing will not impair the capability of either facility to perform its safety functions, including the ability to return to a safe condition in the event of an accident.

(e) *Proximity of sites.*—An ISFSI located near other nuclear facilities shall be designed and operated to ensure that the cumulative effects of their combined operations will not constitute an unreasonable risk to the health and safety of the public.

(f) *Testing and maintenance of systems and components.*—Systems and components that are important to safety shall be designed to permit inspection, maintenance, and testing.

(g) *Emergency capability.*—Structures, systems, and components important to safety shall be designed for emergencies. The design shall provide for accessibility to the equipment of onsite and available offsite emergency facilities and services such as hospitals, fire and police departments, ambulance service, and other emergency agencies.

(h) *Confinement barriers and systems.*—(1) The fuel cladding shall be protected against degradation and gross ruptures.

(2) For underwater storage of spent fuel in which the pool water serves as a shield and a confinement medium for radioactive materials, systems designed for maintaining water purity and the pool water level shall be designed so that any abnormal operations or failure in those systems from any cause will not cause the water level to fall below safe limits. The design shall preclude installations of drains, permanently connected systems, and other features that could by abnormal operations or failure cause a significant loss of water. Pool water level equipment shall be provided to alarm in a continuously manned location if the water level in the fuel storage pools falls below a predetermined level.

(3) Ventilation and off-gas systems shall be provided where necessary to ensure the confinement of airborne radioactive particulate materials during normal or off-normal conditions.

45 FR 74693

(i) *Instrumentation and control systems.*—Instrumentation and control systems shall be provided to monitor systems that are important to safety over anticip[illegible] ranges for normal operation an[illegible]f-normal operation. Those instruments and control systems that must remain operational under accident conditions shall be identified in the Safety Analysis Report.

(j) *Control room or control areas.*—A control room or control areas shall be designed to permit occupancy and actions to be taken to monitor the ISFSI safely under normal conditions, and to provide safe control of the ISFSI under off-normal or accident conditions.

(k) *Utility services.*—(1) Each utility service system shall be designed to meet emergency conditions. The design of utility services and distribution systems that are important to safety shall include redundant systems to the extent necessary to maintain, with adequate capacity, the ability to perform safety functions assuming a single failure.

(2) Emergency utility services shall be designed to permit testing of the functional operability and capacity, including the full operational sequence, of each system for transfer between normal and emergency supply sources; and to permit the operation of associated safety systems.

(3) Provisions shall be made so that, in the event of a loss of the primary electric power source or circuit, reliable and timely emergency power will be provided to instruments, utility service systems, the central security alarm station, and operating systems, in amounts sufficient to allow safe storage conditions to be maintained and to permit continued functioning of all systems essential to safe storage.

§ 72.73 Criteria for nuclear criticality safety.

(a) *Design for criticality safety.*—Spent fuel handling, transfer, and storage systems shall be designed to be maintained subcritical and to prevent a nuclear criticality accident. The design of handling, transfer, and storage systems shall include margins of safety for the nuclear criticality parameters that are commensurate with the uncertainties in the handling, transfer and storage conditions, in the data and methods used in calculations, and in the nature of the immediate environment under accident conditions.

(b) *Methods of criticality control.*—The design of an ISFSI shall be based on either favorable geometry (spacing) or permanently fixed neutron absorbing materials (poisons). Where solid neutron absorbing materials are used, the design shall provide for positive means to verify their continued efficacy. In criticality design analyses for underwater storage systems, credit can be taken for the neutron absorption of rack structures and the water within the storage unit.

45 FR 74693

§ 72.74 Criteria for radiological protection.

(a) *Exposure control.*—Radiation protection systems shall be provided for all areas and operations where onsite personnel may be exposed to radiation or airborne radioactive materials. Structures, systems, and components for which operation, maintnenance, and required inspections may involve such exposure shall be designed, fabricated, located, shielded, controlled, and tested so as to control external and internal radiation exposures to personnel. The design shall include means to:

(1) prevent the accumulation of radioactive material in those systems requiring access;

(2) decontaminate those systems to which access is required;

(3) control access to areas of potential contamination or high radiation within the ISFSI;

(4) measure and control contamination of areas requiring access;

(5) minimize the time required to perform work in the vicinity of radioactive components; for example, by providing sufficient space for ease of operation and designing equipment for ease of repair and replacement; and

(6) shield personnel from radiation exposure.

(b) *Radiological alarm systems.*—Radiological alarm systems shall be provided in accessible work areas to warn operating personnel of radiation and airborne radioactivity levels above a given setpoint and of concentrations of radioactive material in effluents above control limits. Such systems shall be designed with provisions for calibration and testing their operability.

(c) *Effluent and direct radiation monitoring.*—

(1) Effluent systems shall be provided with means for measuring the amount of radionuclides in effluents during normal operations and under accident conditions. A means of measuring the flow of the diluting medium, either air or water, shall also be provided.

(2) Areas containing radioactive materials shall be provided with systems for measuring the direct radiation levels in and around these areas.

(d) *Effluent Control.*

The ISFSI shall be designed to provide means to limit to levels as low as is reasonably achievable the release of radioactive materials in effluents during normal operations; and control the release of radioactive materials under accident conditions. Analyses shall be made to show that releases to the general environment during normal operations and anticipated occurrences will be within the exposure limits given in § 72.67. Analyses of design basis accidents shall be made, to show that releases to the general environment will be within the exposure limits given in § 72.68. Systems designed to monitor the release of radioactive materials shall have means for calibration and testing their operability.

45 FR 74693

§ 72.75 Criteria for spent fuel and radioactive waste storage and handling.

(a) *Spent Fuel and Radioactive Waste Storage and Handling Systems.*

Spent fuel storage, radioactive waste storage, and other systems that might contain or handle radioactive materials associated with spent fuel, shall be designed to ensure adequate safety under normal and accident conditions. These systems shall be designed with (1) a capability to test and monitor components important to safety, (2) suitable shielding for radiation protection under normal and accident conditions, (3) confinement structures and systems, (4) a heat-removal capability having testability and reliability consistent with its importance to safety, and (5) means to minimize the quantity of radioactive wastes generated.

(b) *Waste Treatment.*

Radioactive waste treatment facilities shall be provided. Provisions shall be made for the packaging of site-generated low level wastes in a form suitable for transfer to disposal sites.

§ 72.76 Criteria for decommissioning.

The ISFSI shall be designed for decommissioning. Provisions shall be made to facilitate decontamination of structures and equipment, minimize the quantity of radioactive wastes and contaminated equipment, and facilitate the removal of radioactive wastes and contaminated materials at the time the ISFSI is permanently decommissioned.

Subpart G—Quality Assurance

§ 72.80 Quality assurance program; Records.

(a) A quality assurance program based on the criteria in Appendix B to Part 50 of this chapter shall be established and implemented for the structures, systems, and components of an ISFSI that are important to safety. The application of the quality assurance program should be commensurate with the importance to safety of identified activities and individual structures, systems, and components.

(b) The quality assurance program shall cover all activities identified as being important to safety throughout the life of the licensed activity—from site selection through decommissioning—prior to termination of the license.

45 FR 74693

(c) Appropriate records of the design, fabrication, erection, testing, maintenance and occupation of structures, systems, and components important to safety shall be maintained by or under the control of the licensee throughout the life of the ISFSI.

Subpart H—Physical Protection

§ 72.81 Physical security plan.

A plan for detailed security measures for physical protection shall be established. This plan shall consist of two parts. Part I shall demonstrate how the applicant plans to comply with the applicable requirements of Part 73 of this chapter and during transportation to and from the proposed ISFSI and shall include the design for physical protection and the licensee's safeguards contingency plan and guard training plan. Part II shall list tests, inspections, audits, and other means to be used to demonstrate compliance with such requirements.

§ 72.82 Design for physical protection.

The design for physical protection shall show the site layout and ISFSI design features provided to protect the ISFSI from sabotage. It shall include:

(a) The design criteria for the physical protection of the proposed ISFSI;

(b) The design bases and the relation of the design bases to the design criteria submitted pursuant to paragraph (a) of this section; and

(c) Information relative to materials of construction, equipment, general arrangement, and proposed quality assurance program sufficient to provide reasonable assurance that the final security system will conform to the design bases for the principal design criteria submitted pursuant to paragraph (a) of this section.

§ 72.83 Safeguards contingency plan.

(a) The requirements of the licensee's safeguards contingency plan for dealing with threats and industrial sabotage shall be as defined in § 73.40(b) of this Chapter. This plan shall include Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix, the first four categories of information relating to nuclear facilities licensed under Part 50 of this chapter. (The fifth category of information, Procedures, does not have to be submitted for approval.)

(b) The licensee shall prepare and maintain safeguards contingency plan procedures in accordance with Appendix C to 10 CFR Part 73 for effecting the actions and decisions contained in the Responsibility Matrix of the licensee's safeguards contingency plan.

45 FR 74693

§ 72.84 Change to physical security and safeguards contingency plans.

(a) The licensee shall make no change that would decrease the safeguards effectiveness of the physical security plan or the first four categories of information (Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix) contained in the licensee safeguards contingency plan without the prior approval of the Commission. A licensee desiring to make such a change shall submit an application for an amendment to his license pursuant to § 72.39.

(b) The licensee may, without prior Commission approval, make changes to the physical security plan or the safeguards contingency plan, if the changes do not decrease the safeguards effectiveness of these plans. The licensee shall maintain records of changes to any such plan made without prior approval for a period of 2 years from the date of the change and shall furnish to the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, with a copy to the appropriate NRC Regional Office specified in Appendix A to Part 73 of this chapter, a report containing a description of each change within 2 months after the change is made.

Subpart I—Training and Certification of ISFSI Personnel

§ 72.91 Operator requirements.

Operation of equipment and controls that have been identified as important to safety in the Safety Analysis Report and in the license shall be limited to trained and certified personnel or be under the direct visual supervision of an individual with training and certification in such operation. Supervisory personnel who personally direct the operation of equipment and controls that are important to safety must also be certified in such operations.

§ 72.92 Operator training and certification program.

45 FR 74693

The applicant for a license under this part shall establish a program for training, proficiency testing, and certification of ISFSI personnel. This program shall be submitted to the Commission for approval with the license application.

§ 72.93 Physical requirements.

The physical condition and the general health of personnel certified for the operation of equipment and controls that are important to safety shall not be such as might cause operational errors that could endanger other in-plant personnel or the public health and safety. Any condition which might cause impaired judgment or motor coordination must be considered in the selection of personnel for activities that are important to safety. Such conditions need not categorically disqualify a person, so long as appropriate provisions are made to accommodate such defect.

UNITED STATES NUCLEAR REGULATORY COMMISSION
RULES and REGULATIONS
TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 72

LICENSING REQUIREMENTS FOR THE STORAGE OF SPENT FUEL IN AN INDEPENDENT SPENT FUEL STORAGE INSTALLATION

PROPOSED RULE MAKING

46 FR 11666
Published 2/10/81
Comments must be received on or before 3/23/81

Comment period extended to 4/22/81

Decommissioning Criteria for Nuclear Facilities; Notice of Availability of Draft Generic Environment Impact Statement

See Part 30 Proposed Rule Making

48 FR 54499
Published 12/5/83
Comment period expires 1/5/84. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date

Hybrid Hearing Procedures for Expansions of Onsite Spent Fuel Storage Capacity at Civilian Nuclear Power Reactors

See Part 2 Proposed Rule Making

49 FR 414
Published 1/4/84
The comment period has been extended and now expires 2/20/84. Comments received after that date will be considered if it is practicable to do so, but assurance of consideration cannot be given except as to comments received on or before that date.

Hybrid Hearing Procedures for Expansion of Onsite Spent Fuel Storage Capacity at Civilian Nuclear Power Reactors

See Part 2 Proposed Rule Making

50 FR 5600
Published 2/11/85
Comment period expires 5/13/85

Decommissioning Criteria for Nuclear Facilities

See Part 30 Proposed Rule Making

50 FR 23025
Published 5/30/85
Extended comment period expires 7/12/85.

Decommissioning Criteria for Nuclear Facilities; Extension of Comment Period

See Part 30 Proposed Rule Making

> **50 FR 23960**
Published 6/7/85
Comment period expires 10/7/85.

Financial Responsibility Requirements Applicable to NRC Licensees for Cleanup of Accidental and Unexpected Releases of Radioactive Materials

See Part 30 Proposed Rulemaking

UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS — ENERGY

PART 72

LICENSING REQUIREMENTS FOR THE STORAGE OF SPENT FUEL IN AN INDEPENDENT FUEL SPENT STORAGE INSTALLATION

STATEMENTS OF CONSIDERATION

45 FR 74693
Published 11/12/80
Effective 11/28/80

Licensing Requirements for the Storage of Spent Fuel in an Independent Fuel Spent Storage Installation

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is adding a new Part to its regulations to cover the specific licensing requirements for the storage of spent fuel in an independent spent fuel storage installation (ISFSI). Such activities are currently licensed under the Commission's general regulation for the Domestic Licensing of Special Nuclear Material, 10 CFR Part 70. Experience with licensing actions under this regulation demonstrated the need for a more definitive regulation to cover spent fuel storage in an ISFSI. This new Part was developed to meet this need.

DATES: Effective date: November 26, 1980.

Note.—The NRC did not submit this rule to the Comptroller General for a review of its reporting and recordkeeping requirements because the projected number of licensees involved, fewer than 10, makes it exempt from the Federal Reports Act, as amended, 44 USC 3512.

FOR FURTHER INFORMATION CONTACT: Dennis W. Reisenweaver, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 443–5910.

SUPPLEMENTARY INFORMATION: On October 6, 1978, the NRC published in the **Federal Register** (43 FR 46309) a notice of proposed rulemaking covering the storage of spent fuel in an independent spent fuel storage installation (ISFSI). In addition, copies of the proposed rule with a request for comments were sent to individuals, organizations, and government agencies thought to be potentially interested in this subject.

Seventy letters, containing more than 600 individual comments, were received in response to this request. Individual letters were submitted on behalf of several contributors. In addition, comments were received from interested NRC staff members. The comments covered generic subjects in addition to ones addressed to specific sections of the draft rule. After a careful consideration of all of the comments received, the Commission has adopted 10 CFR Part 72 in effective form. Major issues contained in these comments and resulting changes in the rule are discussed below. The detailed responses to individual comments are documented in NUREG–0587, "Analyses of Comments on 10 CFR Part 72." Copies of this report are available from the Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Issues Addressed in Public Comments

1. *Need for a Rule at This Time.* Fifty commenters showed a broad recognition of the need for the proposed rule at this time and endorsed this action by the NRC, although exceptions were taken to some of the specific requirements. Twelve commenters were opposed to this rule and its promulgation at this time. For example, some of these commenters expressed a concern that the promulgation of a rule covering spent fuel storage would decrease pressures on both industry and government to solve the radioactive waste problem. Others advocated a halt to the generation of spent fuel, i.e., shut down nuclear power plants until the waste problem is solved.

Following the President's deferral of reprocessing of spent fuel in April 1977 came the general recognition that, regardless of future developments, spent fuel would have to be stored for a number of years prior to its ultimate disposition, and that the storage of spent fuel in an ISFSI would be a likely additional new step in the nuclear fuel cycle. The NRC expects a number of license applications covering this activity in the near future. Part 72 establishes specific regulatory requirements for this activity.

It is the judgment of the Commission that the promulgation of Part 72, which is designed to codify certain existing regulatory practices and better define licensing requirements covering the storage of spent fuel in an ISFSI, is consistent with the NRC objective of having applicable regulations in place to meet anticipated needs.

2. *Purpose and Scope of Part 72.* In the opinion of those commenters who consider spent fuel to be a high-level waste, the licensing of sent fuel storage is the de facto licensing of the temporary storage of high-level wastes. Others commented that Part 72 could be expanded to cover the temporary storage of high-level wastes in a facility like an ISFSI to allow further radioactive decay prior to placement in a repository.

Part 72 is limited in scope to the temporary storage (up to 20 years with renewal at the option of the Commission) of spent fuel (and radioactive materials associated with spent fuel storage) in facilities designed specifically for this purpose. The purpose of Part 72 is to prescribe the regulatory requirements for this activity.

The Commission has stated that spent fuel from power reactors is high-level waste for the purposes of Section 202(3) of the Energy Reorganization Act.[1] Thus an ISFSI that is operated by the Department of Energy must be licensed by NRC.

3. *De Facto Support of Nuclear Power.* Some commenters interpreted the promulgation of Part 72 as de facto support by the Commission of the continuing production of electricity by nuclear power (and its resultant waste generation) without a national waste management policy. The Commission's intent in promulgating Part 72 is simply to have applicable regulations in place for the protection of the health and safety of the public and of the environment if applications are received for the storage of spent fuel in an ISFSI. The Commission's position on the subject of waste management was addressed in the **Federal Register** notice on 10 CFR Part 51, published on August 2, 1979 (44 FR 45362) promulgating a final rule which sets out in Table S–3, Table of Uranium Fuel Cycle Environmental Data, revised environmental impact values for the

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[1] Statement of Dr. Joseph R. Hendrie, then Chairman of the U.S Nuclear Regulatory Commission before the Committee on Energy and Natural Resources, U.S. Senate, May 10, 1979.

uranium fuel cycle including waste disposal and the notice of proposed rulemaking on 10 CFR Parts 50 and 51, "Storage and Disposal of Nuclear Wastes," published on October 25, 1979 (44 FR 61372).

4. *Adequacy of Technology Base.* A number of commenters questioned the adequacy and availability of the technology base for the development of a rule covering extended spent fuel storage. In fact, there is a very broad technology base for both wet and dry modes of spent fuel storage for the contemplated lifetime of an ISFSI.

Water basins are simple structures that have been used since the mid-1940s for the handling, transfer and storage of spent fuel and other highly radioactive sources such as ^{60}Co and for the shielding of research reactors, initially at government plants and later at commercial reactors. The engineering practices and procedures involved in their design and construction are well established. The operation of a water basin is also straightforward, the water chemistry is well established, and the maintenance of high quality basin water is readily achievable. These water conditions are essentially non-corrosive to both the materials involved in the basin itself and the components of spent fuel assemblies from commercial light water reactors. Both experience and theoretical analyses of basin storage conditions indicate that spent fuel can be stored underwater for several decades without serious degradation.

Although dry storage has not been used for commercial light water reactor (LWR) fuels, dry storage has been used for a number of years for other types of spent fuels and other highly radioactive materials, particularly at the Idaho Nuclear Engineering Laboratory. Dry storage is used for spent MAGNOX fuels at the Wyfla Power Station in Wales. Canada is developing dry storage for CANDU reactor fuels, and the U.S. Department of Energy (DOE) is evaluating the storage of high burnup LWR fuels both in concrete and steel canisters similar to the Canadian design and in near-surface dry well storage at the Nevada Test Site.

5. *Is Spent Fuel Storage a Low Risk Operation?* Some commenters questioned whether the extended storage of spent fuel is a low risk operation as stated in the preamble to the proposed rule.

Radiological risks to the public result from a release of radioactive materials and their dispersal to the environment. Once in place, spent fuel storage is a static operation and during normal operations the conditions required for the release and dispersal of significant quantities of radioactive materials are not present. There are no high temperatures or pressures present during normal operations or under design basis accident conditions to cause the release and dispersal of radioactive materials. This is primarily due to the low heat generation rate of spent fuel with more than the one year of decay before storage in an ISFSI required by the rule and with the low inventory of volatile radioactive materials readily available for release to the environs.

However, it is essential to maintain safe storage conditions. For water basins, this means that the pool structure, storage racks and possibly other items such as crane tiedowns, must be designed to withstand the maximum potential natural phenomena, including earthquakes, to which the ISFSI may be exposed. For this reason, the rule stresses the selection of sound sites and designing for the most severe natural phenomena reported for the site and surrounding area. The same considerations are applicable to ISFSI designs other than water basins.

6. *Coverage of Dry Storage and Existing Facilities.* A number of commenters suggested that the purpose and scope be written in more definitive language and specifically to cover dry storage and other radioactive materials associated with spent fuel, recognizing that this was intended in the proposed rule. The wording was changed for improved clarity in response to these suggestions. In addition, paragraph 72.2(c) was added to the scope to clarify the fact that this rule covers both wet and dry storage. Other appropriate changes were made in the body of the rule to further clarify this point.

7. *Types of Fuel Covered and Decay versus Fuel Characteristics.* Comments were received suggesting that the rule be broadened to cover other than LWR spent fuel, e.g., CANDU reactor fuel that might be received from abroad. In response, the definition of spent fuel was broadened to cover all types of power reactor fuels. An ISFSI would have to be designed to accommodate the types of spent fuel to be stored, and any restrictions on fuel types would be a subject of license conditions.

Some commenters questioned the one-year decay stipulation, preferring that this requirement be expressed in terms of specific power, burnup, or other pertinent fuel characteristics. In practice, specific power is important only for freshly discharged fuel as the power level prior to shutdown is the controlling factor for the concentration of short-lived radionuclides present in spent fuel. The long-lived radionuclides present in spent fuel are proportional to burnup; but within the limits of expected burnups, this is not a significant factor for spent fuel aged more than one year.

The one-year decay stipulation has been retained as this is a basis for the requirements of Part 72, i.e., the presumption is made that no short-lived radionuclides are present and the levels of volatile radioactive materials are very substantially reduced.

Inasmuch as the definition of spent fuel eligible for storage in an ISFSI [Section 72.3(v)] specifies that the fuel must have undergone at least a year's decay since its irradiation in a power reactor, any facility for temporary storage of fuel irradiated in a power reactor which has not undergone a year's decay would be licensed under Part 50 rather than Part 72.

8. *Definition of Temporary Storage.* In response to comments, a definition of temporary storage has been added as paragraph 72.3(x). Temporary storage, in the context of Part 72, means "interim storage of spent fuel for a limited time only, pending its ultimate disposal."

9. *Material Versus Facility License.* Some confusion and misunderstanding over the differences between a Part 70 "material" license and a Part 50 "facility" license was reflected by a number of commenters. Under Part 70, a licensee is authorized to receive title to, own, acquire, deliver, receive, possess, use, and transfer special nuclear material for a stated purpose, such as fuel manufacturing, to be carried out in an approved plant complex; however, the plant itself is not licensed but its operation is regulated. Under Part 50, a licensee is authorized to transfer or receive in interstate commerce, manufacture, produce, transfer, acquire, possess or use a production or utilization facility, as defined by the Atomic Energy Act; the license covers the facility, not the material. The possession of fuel by a reactor licensee is covered under a Part 70 license, which is incorporated into the Part 50 license. The licensing of spent fuel storage in an ISFSI under Part 72 is a material type of license; however, Part 72 includes requirements for an ISFSI that are conditions under which a license to possess spent fuel will be issued.

10. *One License Application and One Safety Analysis Report.* For some time the NRC has endeavored to simplify its regulations and licensing activities. As spent fuel storage in an ISFSI is a simple operation, does not require a complex plant and is subject to few controversial technical issues, a one step licensing procedure requiring only one application and one SAR was adopted in Part 72. This one step licensing procedure was

the subject of a number of comments. It is believed that the rewording of the text of the rule plus the discussions of individual comments in NUREG–0587 have clarified requirements and the one application and one SAR requirement has been retained in Part 72. However, it should be recognized that locating an ISFSI on a nuclear power plant site may require an amendment to the Part 50 license to take into account possible interactions with the ISFSI.

Section 2.764 of 10 CFR Part 2 has been amended by adding a new paragraph (c) which provides that an initial decision directing the issuance under 10 CFR Part 72 of an initial license for the construction and operation of an independent spent fuel storage installation (ISFSI) shall not become effective until review by the Commission has been completed and that the Director of Nuclear Material Safety and Safeguards shall not issue such an initial license until expressly authorized to do so by the Commission. This amendment does not affect and is not intended to alter in any way the previous action of the Commission temporarily suspending the immediate effectiveness rule (10 CFR 2.764 (a) and (b)) in certain proceedings as provided in Appendix B to Part 2 (44 FR 65049 November 9, 1979.)

11. *Accident Analyses.* A number of comments addressed the subject of accident analyses, particularly an apparent inconsistency between the 24-hour inhalation/ingestion dose addressed in paragraph 72.15(a)(13) and the 2-hour direct radiation dose used as a site evaluation factor in § 72.67.

In response to those comments and upon further consideration, paragraph 72.15(a)(13) was revised to require accident analyses to cover both immediate dose and long-term dose commitment based on the duration of the postulated event rather than on an arbitrary time limit. Accident criteria to be used in site evaluation were removed from §§ 72.65 and 72.67 and placed in a new § 72.68 which addresses the criteria for establishing the controlled area for an ISFSI.

12. *Decommissioning Plan.* The requirement in Part 72 that the license application include a plan for decommissioning of the proposed ISFSI and the financial arrangements therefore were the subject of many comments. The reason for this requirement is that the decommissioning plan provides design input (see § 72.76) and the basis for the costs of decommissioning. Part 72 makes it a requirement that adequate financial arrangements to cover the cost of decommissioning should be made before a license is issued.

Although decommissioning of an ISFSI should require only the removal of surface contamination, planning for decontamination and decommissioning is an essential element of design input. The value of a decommissioning plan being developed at the license application stage is that this plan demonstrates the extent to which the proposed ISFSI has been designed for decommissioning.

The provisions for financing the ultimate decommissioning of an ISFSI were also the subject of many comments reflecting that this is a problem yet to be resolved. This should not be a serious problem as the cost of decommissioning an ISFSI that is designed for decommissioning should be small compared to these costs for some other nuclear facilities.

13. *Prequalification of Part 50 Licensees.* Some commenters, particularly utilities, suggested that Part 50 licensees should be considered to be prequalified. This suggestion was not adopted, although no serious difficulty is anticipated in the qualification of a Part 50 licensee. A Part 50 licensee must satisfy the requirement in Part 72 that an applicant have an adequately trained staff committed to the design, construction and operation of the proposed ISFSI. The storage of spent fuel in an ISFSI is a low risk operation provided the ISFSI is designed, constructed and operated in accordance with required standards. A commitment to this effect on the part of an applicant is considered important.

14. *Required Detail and Updating of the SAR.* Questions were raised on the required detail in the SAR and its updating. The single license granted under Part 72 prior to the start of construction requires considerable detail in the license application, particularly in the SAR. There must be sufficient detail to: (1) Support the findings enumerated in § 72.31 for the issuance of a license, and

(2) Serve as the bases for both the license conditions applicable to design and construction and the license conditions, including technical specifications, applicable to operations.

The wording has been changed throughout the rule to clarify this point.

Updating the SAR during the design and construction phase of the project is required. However, such updating is limited to an elaboration or modification of the information in an approved SAR. Any changes involving an unreviewed safety question require an amendment to the license. An annual updating of the SAR after the ISFSI is built is required even if no changes have been made. The annual updating will also address the significance of any changes to codes, standards, regulations, or regulatory guides which the licensee has committed to meeting that are applicable to the design, construction, or operations of the ISFSI. Changes at an ISFSI after it is built are expected to be limited to support systems with only marginal safety significance. This requirement is comparable to that of the proposed amendment to § 50.71 of 10 CFR Part 50, commonly referred to as the "FSAR Update Rule."

15. *Content of Environmental Reports.* The content of the environmental report required by § 72.20 was the subject of a number of comments. The environmental report required for an ISFSI is an evaluation of the environmental impact of the ISFSI on the region in which it is located, including the transportation that is involved. Discussions of generic issues covered by DOE and NRC generic environmental impact statements may be incorporated by reference.

16. *Provision for Public Hearings and State and Local Participation in the Licensing Process.* A number of commenters expressed concern over the omission in proposed Part 72 of any reference to public hearings or other provisions covering state and local participation in the licensing process. In accordance with the requirements of Sec. 189a of the Atomic Energy Act, as amended, which provides in part ". . . the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding . . . ." the Office of Nuclear Materials Safety and Safeguards has established the practice of publicizing proposed spent fuel storage licensing actions and holding public hearings on a request by any person whose interest my be affected. A section based on the provisions of §§ 2.104 and 2.105 of 10 CFR Part 2, has been added to the rule (See § 72.34).

17. *Applicability of License Conditions.* Some commenters raised questions on the content and applicability of license conditions, recognizing that license conditions are an important aspect of the single preconstruction license issued under Part 72. In response to these comments, the wording of § 72.33 was changed to clarify the point that license conditions are applicable to design, construction, and operational activities. Since license conditions applicable to ISFSI operations are technical in nature, these have been identified by the more

familiar term "Technical Specifications."

18. *At-Reactor versus Away-From-Reactor Siting.* Some commenters favored restricting the siting of ISFSIs to reactor sites, with the thought that this might reduce perceived transportation risks and keep pressure on the nuclear industry to help solve the waste management problem. Others favored away-from-reactor siting, perceiving this to be safest solution even though transportation might be increased.

Also, some commenters interpreted the promulgation of Part 72 as reflecting an NRC bias favoring away-from-reactor siting. This conclusion is not correct. The NRC is not aware of any compelling reasons generally favoring either at-reactor or away-from-reactor siting of an ISFSI. There are many factors to be considered in each situation and in the licensing actions involved; accordingly, the rule permits either.

19. *The Use of New Site-Related Terms.* One subject of particular interest to many commenters was the use in Part 72 of new site-related terms ("controlled area," "neighboring area" and "region,") rather than the more familiar site-related terms used in 10 CFR Parts 20 and 100.

Several considerations went into the development of new terms for site-related areas around an ISFSI. While the terminology used in 10 CFR Part 20, specifically 'restricted' and 'unrestricted' areas, applies to all nuclear facilities, it is limited to radiation protection concerns associated with normal operations and the means used by the licensee to control the access to areas of potential radiation exposure. With the advent of as low as is reasonably achievable objectives and environmental radiation protection standards promulgated by the Environmental Protection Agency in 40 CFR Part 190, the term "unrestricted" used in 10 CFR Part 20 is too narrow in meaning for applications to areas beyond the boundaries of the licensee's property.

The current terminology used in 10 CFR Part 100, specifically 'exclusion area' and 'low population zone', is applicable to postulated radiological consequences to individuals beyond the site boundary from potential accidents in test and power reactors. Its applicability is limited to specific types of nuclear reactors, not other nuclear installations, and to well-defined reference dose guidelines and risks associated with such nuclear reactors. The terminology used in 10 CFR Part 100 is too restrictive in meaning for use at multi-purpose sites and was never intended to be used for other than reactor sites. The use of these terms from 10 CFR Part 100 for an ISFSI is inappropriate.

Furthermore, the "Report of the Siting Policy Task Force," NUREG–0625, has recommended several changes in the basic criteria of 10 CFR Part 100. Therefore using the current terminology of 10 CFR Part 100 in 10 CFR Part 72 is not appropriate due to the potential changes that may be made in Part 100. For example, it is proposed to change the term (and definition) of "low population zone" to "emergency planning zone" (EPZ). This terminology was used in the proposed revision of Appendix E (now titled "Emergency Planning and Preparedness for Production and Utilization Facilities") to 10 CFR Part 50, that was published for comment on December 19, 1979. Consistent with this proposed revision, the term "neighboring area" in 10 CFR Part 72 has been changed to "ISFSI Emergency Planning Zone" (ISFSI–EPZ) because these are comparable in concept. The size of an ISFSI–EPZ is expected to be much smaller than that of a reactor EPZ.

20. *Criteria for Establishing the Controlled Area, Neighboring Area,*[1] *and Region as Applied to the Site of an ISFSI.* A number of commenters expressed the need for criteria for establishing the controlled area, the neighboring area and the region for an ISFSI as these terms are used in Part 72 and noted that there was a potential conflict of terms in the proposed rule. In response to these comments, more definitive criteria have been incorporated in the pertinent sections of the rule and clarifying changes in the text and definitions have been made.

Another concern with the implementation of these defined areas for an ISFSI is the possible conflict in terminology for an ISFSI located on the same site with a nuclear power reactor licensed under 10 CFR Parts 50 and 100 requirements.

Part of this concern appears due to a misunderstanding and the impression that the controlled area for an ISFSI is the same as the exclusion area for a reactor and that the neighboring area (since changed to ISFSI–EPZ) for an ISFSI is the same as the low population zone for a reactor. In concept, these areas are similar but the bases for their establishment are different. The controlled area for an ISFSI is not the same as the exclusion area for a reactor because the design basis accidents are different. Reactor accidents involve a potential release of radioactive materials, including short-lived species such as ^{131}I. Design basis accidents of concern at an ISFSI primarily involve direct radiation from exposure to the spent fuel rather than releases of radioactive materials. The areas requiring control or protective action measures for the protection of the public are quite different and hence using different terminology for each avoids confusion.

The four site-related terms and their definitions, i.e., site, controlled area, neighboring area (now ISFSI–EPZ), and region, establish each of the geographical areas and the interrelationship that would exist between these areas and the need to protect public health and safety and the environment. The site means the real property on which the ISFSI is located. The controlled area, which may or may not be the same as the site, has the purpose of defining licensee control for meeting regulatory licensing requirements. The controlled area, in most cases, will be enclosed by some physical barrier such as a fence, to provide the needed control of activities within the area. Beyond the controlled area, the licensee does not necessarily exercise authority over activities.

The ISFSI-Emergency Planning Zone (ISFSI–EPZ) is that area in the immediate vicinity of an ISFSI upon which local and State governments should base their radiological response plans. The requirement to define a neighboring area in the proposed 10 CFR Part 72, in which State and local governments could take protective action in the event of an emergency, is comparable in concept to the emergency planning zones for reactors. The term ISFSI–EPZ has been adopted to differentiate this zone and its requirements from those of an EPZ for a reactor.

The regions around an ISFSI site will vary in geographical area and location depending upon the event being evaluated to determine its impact on the ISFSI. A region has the purpose of defining the area within which such an event can have an impact on the public health and safety or environment. This impact must be assessed from the consequences postulated for the events evaluated.

21. *Dose Limits for Normal Operations and Accidents.* A number of commenters addressed the subject of dose limits for normal operations and accidents. Although spent fuel storage is not specifically identified as a fuel cycle operation in 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power

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[1] The term "neighboring area" has been changed to "ISFSI–EPZ."

Operations," the dose limits specified in this regulation are used in Part 72. Section 72.67 was rewritten to better clarify the requirements on effluents and direct radiation during normal operations and anticipated occurrences.

The accident dose limit of 5 rem was placed in a new § 72.68, that defines the criteria for establishing a controlled area for an ISFSI. The 2-hour criterion was deleted; the controlling design basis accident for the specific ISFSI covered in the application is to be evaluated. The 5 rem cumulative exposure limit is derived from protective actions recommended by EPA for projected doses to populations for planning purposes.[2]

The reference to 24 hours in paragraph 72.15(a)(13) was deleted; the requirements for the accident analysis section of the SAR were changed to call for the evaluation of a dose commitment due to the event that would take into account the total dose from a single exposure as well as dose reduction due to protective action.

In response to comments on the applicability of Appendix I to 10 CFR Part 50 and Part 100 to an ISFSI, Appendix I is applicable only to light water cooled power reactors and Part 100 is applicable only to power and test reactors. Neither of these regulations is applicable to an ISFSI.

22. *Geological and Seismological Investigations.* In the proposed rule, the geological and seismological investigation requirements for an ISFSI site were based on the reasoning that it should be possible to select sound sites for the few ISFSIs expected to be built. Seismologically, a sound site was considered one having potential ground motion of less than 0.25 g from earthquake with a return period of 500 years. This earthquake potential could be determined on a probabilistic basis; i.e., read from seismic zonation maps such as those published by the U.S. Geological Survey.[3] Uncertainties in such determinations could be offset by overdesign.

This use of probabilistic techniques was considered appropriate as a site selection criterion; it was not intended to be used for determining the design earthquake for structures. Assuming a sound site as defined above, the use of a standard design earthquake of 0.25 g (which has a return period that is much greater than 500 years) was considered conservative and adequate to offset uncertainties in an evaluation of a specific site on a probabilistic basis.

However, it was not possible to obtain a consensus among experts in the field on this approach. It was generally agreed that probabilistics techniques are adequate to determine potential seismicity on a regional basis, but these techniques are not yet adequately developed for application to a specific site.

As an alternative, the proposed rule allowed a site specific "g" value to be determined by the procedures of Appendix A to Part 100, "Seismic and Geologic Siting Criteria for Nuclear Power Plants." This provision was in Subpart E, "Siting Criteria," and was intended for use in the evaluation of site characteristics, such as potential soil liquefaction, under earthquake conditions in areas of low potential seismic activity where the use of the standard design earthquake of 0.25 g was considered to be unduly restrictive.

The final rule makes a differentiation between the regions east and west of the Rocky Mountain Front, approximately 104° west longitude, and in the east makes a further differentiation between areas of low seismic potential and areas of known seismic potential, including, but not limited to, New Madrid, Mo.; Charleston, S.C.; and Attica, N.Y.

In areas of low seismic potential in the eastern United States, a proposed site will be considered acceptable if the results from onsite foundation and geological investigation, literature review, and regional geological reconnaissance show no unstable geological characteristics, soil stability problems, or potential for vibratory ground motion at the site in excess of an appropriate response spectrum anchored at 0.2 g. Unstable geological characteristics are defined as capable faults, surface offset potential, subsidence or collapse features, uplight or downwarp, active tectonism, or landslide or mudflow potential. In the western United States and in regions of known seismic potential in the eastern United States, the seismicity at a proposed site must be evaluated by the criteria and level of investigations of Appendix A of 10 CFR Part 100, "Seismic and Geologic Siting Criteria for Nuclear Power Plants."

The conservatism reflected both in the use of a standard design earthquake of 0.25 g for the design of structures at sites in areas of low seismic potential or the alternative of developing a site specific design earthquake by the very thorough investigation required by Appendix A of Part 100 is considered necessary and appropriate for the protection of an ISFSI which could contain a large inventory of spent fuel. The Commission is considering a revision of Appendix A to Part 100. However, it is anticipated that such revision would be in the nature of a clarification of its requirements and that the rule would still be applicable to ISFSI siting.

The principle of selecting sound sites has been retained in the final rule. For example, floodplains and sites that lie within the range of strong nearfield ground motion from earthquakes on larger capable faults should be avoided. This principle is consistent with the recommendations in the "Report of the Siting Policy Task Force," NUREG-0625.

23. *The ISFSI Design Earthquake (ISFSI-DE).* The standardized ISFSI-DE of 0.25 g for massive structures, such as water basins, has been retained in the final rule for use at sites east of the Rocky Mountain Front that are in areas of low potential seismic activity and hence do not need to be evaluated by the criteria and level of investigations of Appendix A of 10 CFR Part 100.

For sites west of the Rocky Mountain Front and in regions in the eastern United States of known seismic activity, the ISFSI-DE must be determined using the level of investigations and the criteria of Appendix A of 10 CFR Part 100, including the requirement that it be no less than 0.10 g.

For an ISFSI that is located on a power plant site which has been evaluated by the criteria and level of investigations of Appendix A of 10 CFR Part 100, the ISFSI-DE for structures shall be equivalent to the safe shutdown earthquake (SSE) for a nuclear power plant.

For ISFSI's which do not involve massive structures, such as dry storage casks and cannisters, the required design earthquake will be determined on a case-by-case basis until more experience is gained with the licensing of these types of units.

24. *Probability Basis Used for Other Natural Phenomena.* Some commenters wanted to go one step further and use a probabilistic basis for other natural phenomena such as tornadoes and floods. It has been common practice in the United States to use probable maximum events as design bases for radiological safety-related structures, systems, and components. When a frequency or probabilistic analysis of historical data is used to estimate such a low probability event, there is generally too much uncertainty to make the estimate useful for design purposes. Therefore, the probable maximum flood, for example, is estimated using deterministic hydrologic models which

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[2] EPA 520/1-75-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," September, 1975.

[3] Such as Algermissen and Perkins, USGS Open File Report 76-416, 1976, "A Probabilistic Estimate of Maximum Acceleration in Rock in the Contiguous United States."

utilize meteorological input that approaches the upper limit possible for that location, taking into account existing climate and time of year.

25. *Prequalification of Reactor Sites and Their Population Distributions.* Some commenters recommended that reactor sites be prequalified with no site specific investigations required for an at-reactor siting of an ISFSI. While a site that has undergone a full safety and environmental review and has been approved for a Part 50 facility is likely to be found acceptable for a properly designed ISFSI, the pre-qualification of sites licensed under Part 50 without review in relation to the proposed design of the ISFSI does not seem prudent. Information on a specific site that has been submitted to the NRC in connection with other licensing actions need not be repeated in a Part 72 license application. It can be incorporated by specific references to previous submissions.

26. *Transportation Considerations.* A number of commenters considered that the transportation involved in spent fuel shipments to an ISFSI could be an important consideration in an evaluation of site suitability. This might be particularly true of a large installation. The Commission agrees and a new § 72.70 has been added to the rule to specifically address this point.

27. *Missile Protection.* Part 72 requires protection from natural phenomena with the exception of tornado missiles. Tornado missile protection at reactors is of concern because rupture of recently discharged fuel at a reactor could cause the potential release of volatile short-lived radionuclides, particularly ^{131}I. Since the quantity of ^{131}I present in aged fuel at an ISFSI is reduced a factor of 10^9 due to radioactive decay in the first year after discharge, the potential risk from the rupture of aged fuel is orders of magnitude lower for an ^{131}I release. The radionuclides which could potentially be released as a result of a tornado missile event are long-lived ^{85}Kr and ^{129}I. However, an accident evaluation in NUREG–0575,[5] Section 4.2.3.2, using conservative assumptions demonstrates that the consequences from the release of the nuclides attributable to a tornado missile would not be significant. Hence, a requirement for protection from tornado missiles does not appear to be justified.

28. *Criticality.* A number of commenters expressed concern over the prospect of a criticality in an ISFSI.

Criticality has been a subject of study and experiment in the nuclear industry and has received much attention among nuclear engineers. The technology used in evaluating a given design for criticality potential is now highly developed with sophisticated computer codes. These codes have been bench-marked by actual measurements in various kinds of lattices and configurations of critical arrays of fuel elements. Because spent fuel storage racks are designed with a large safety factor to prevent criticality, the possibility of a significant criticality in ISFSI is very remote.

29. *Application of ALARA to Occupational Exposures.* Some commenters objected to the application of the ALARA principle to the design of a facility as this might affect occupational exposures. These objections were based on two points:

(1) The thought that ALARA applied only to public health and safety, and

(2) Occupational exposures are controlled by administrative procedures.

In response, the ALARA concept does apply to occupational health protection as specified in 10 CFR Section 20.1(c). Furthermore, although it is recognized that occupational exposures can be controlled to some extent by administrative procedures, design provisions such as adequate shielding of sources and proper equipment layout to minimize exposures are also important factors in keeping occupational exposures to a minimum. It is often impossible to fully compensate for a poor design using administrative procedures. ALARA (and its predecessor ALAP) has been a cornerstone of radiation protection for many years and it has always been considered to apply to all types of exposure, occupational and public.

30. *Broadened Applicability of Quality Assurance Program.* Some commenters took objection to what they interpreted as a broadening of the QA program, e.g., coverage of operations and the physical security system. It is the Commission's view that a licensee's QA program must cover not only design and construction, but all activities that are important to safety throughout the life of a facility.

31. *Certification versus Licensing of Operating Personnel.* The safety of an ISFSI is achieved by static means, primarily its configuration. Its safety is not dependent on dynamic reactions to the manipulation of controls like a reactor. It is necessary that operating personnel be adequately trained but not necessarily licensed by the NRC. A certification by the licensee of an individual's proficiency to operate equipment is considered adequate.

32. *Definition of the term "Independent".* The meaning of the term "Independent" as used in Part 72 when applied to an ISFSI that is located on the site of another licensed facility, was the subject of a number of comments and considerable staff discussion.

An ISFSI may be a free-standing, away-from-reactor, fully independent type of facility or it may be located on the site of an existing facility such as a nuclear power plant. Such a location could have the economic benefit of sharing some utilities, services and personnel between the ISFSI and an existing facility on the site.

The rule is applicable to either type of location and an ISFSI may be provided with services from an existing facility and still be considered "independent." The use of services from an existing facility (i.e., electricity, makeup water, waste treatment, etc.) is allowable provided the Commission finds there is reasonable assurance that the construction and operation of the ISFSI will provide adequate protection to the health and safety of the public from the standpoint of both facilities involved.

Any physical connection between facilities must be evaluated, but any penetration of the reactor storage pool walls will be considered a conclusive showing that the ISFSI is not "independent" and hence is not within the scope of Part 72 and should be covered by licensing action under Part 50.

33. *Licensing Actions Involving Previously Licensed Facilities.* There are now in existence three facilities for spent fuel storage that have been subject to previous licensing actions. These are:

G.E.—Morris, Ill.—built under a Part 50 Construction Permit authorization as a reprocessing plant; spent fuel storage now licensed under Part 70;

NFS—West Valley—now licensed under Part 50;

AGNS—Barnwell, S.C.—built under a Part 50 Construction Permit authorization as a reprocessing plant; but no operating license issued.

In the event of an application for use of one of the above facilities as an ISFSI, a license would be issued if the facility meets the requirements of Part 72. Such licensing actions will require the preparation of an environmental impact statement or appraisal under conforming amendments of Part 51. In this regard see § 51.5(a)(10) for issuance of an initial license for storage of spent fuel in an ISFSI at a site not occupied by a nuclear power reactor; § 51.5(b)(4) for issuance of certain amendments to a license for storage of spent fuel in an ISFSI; § 51.5(b)(5) for issuance of a renewal license for storage of spent fuel in an ISFSI; and § 51.5(b)(9) for issuance of an initial license for storage of spent fuel in an ISFSI on the site of a nuclear power reactor. These environmental impact assessments will include an evaluation of feasible alternatives. However, since the site selection process for an existing facility has already been completed, no comparative review of alternative sites will be required unless there is new information which could alter the original site evaluation findings. In practice, this means that alternative sites need not be reviewed and that the existing facility would be rejected for siting considerations only if the site involved found to be unsuitable with respect to either safety or environmental impact considerations.

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[5] Final Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Reactor Fuel, August 1979.

An application for renewal of the license for the G.E.—Morris facility under 10 CFR Part 70 was received on February 27, 1979 and has been under review since that time. As 10 CFR Part 72 has become effective prior to completion of this licensing action, such licensing action will proceed pursuant to 10 CFR Part 72 which is specifically designed to cover spent fuel storage in an ISFSI. This is expected to result in some procedural delays in the G.E.—Morris proceedings.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, the following new Part 72 and related conforming amendments of Parts 51, 70, 73 and 150 to Chapter I of Title 10, of the Code of Federal Regulations are published as a document subject to codification.

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46 FR 36119
Published 7/14/81
Effective 8/13/81

10 CFR Part 72

Reporting Requirements for Spent Fuel Storage Facilities Subject to IAEA Safeguards

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Commission is amending its regulations to make it clear that licensees required to submit inventory change reports and material status reports pursuant to the US/IAEA Safeguards Agreement are not additionally required to submit material status reports and nuclear material transfer reports under NRC domestic safeguards regulations. This amendment clarifies Commission intent that a licensee need not submit duplicative reports.

EFFECTIVE DATE: August 13, 1981.

FOR FURTHER INFORMATION CONTACT: Mr. E. R. Morgan, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555 (301–443–5976).

SUPPLEMENTARY INFORMATION: On July 31, 1980, the Nuclear Regulatory Commission published in the Federal Register (45 FR 50706) a new Part 75 to Title 10 of the Code of Federal Regulations and amendments to 10 CFR Parts 40, 50, 70, 150, and 170 to implement the Agreement Between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America.

On November 2, 1980 (45 FR 74693), the Commission added a new Part 72 to Title 10 implementing licensing requirements for the storage of spent fuel in an independent spent fuel storage installation.

Parts 75 and 72 both contain requirements for the submittal of material status reports and material transfer reports (the latter are referred to in Part 75 by the IAEA nomenclature as inventory change reports). The amendments which follow clarify that the Commission does not intend that a licensee submit duplicative reports.

These amendments are of a minor and nonsubstantive nature in that they clarify existing requirements. As a result, the publication of a notice of proposed rulemaking is unnecessary and the requirements of the Regulatory Flexibility Act do not apply. No new reporting requirements subject to the Paperwork Reduction Act are imposed.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Part 72 of Title 10, Chapter I, Code of Federal Regulations are published as a document subject to codification.

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46 FR 58281
Published 12/1/81
Effective 12/1/81

10 CFR Parts 11, 19, 20, 21, 25, 72, 75, 95, and 170

Licensing Requirements for the Storage of Spent Fuel in an Independent Spent Fuel Storage Installation; Minor Clarifying and Conforming Amendments

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: This document makes minor clarifying amendments to the final rule establishing Licensing Requirements for the Storage of Spent Fuel in an Independent Spent Fuel Storage Installation. This document also makes needed conforming amendments to other parts of the Commission's regulations. The amendments are necessary to ensure proper application of the Commission's regulations.

EFFECTIVE DATE: December 1, 1981.

FOR FURTHER INFORMATION CONTACT: Dennis W. Reisenweaver, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Phone 301–443–5910).

SUPPLEMENTARY INFORMATION: This final rule amends 10 CFR Part 72 of the Commission's regulations as published in final form on November 12, 1980 (45 FR 74693) to conform the description of the general license to receive title to and own spent fuel without regard to quantity established in 10 CFR 72.6(b) to the description used for comparable general licenses in 10 CFR 31.9, 40.21 and 70.20 of the Commission's regulations. These general licenses do not authorize the general licensees to receive, possess, use or transfer any radioactive material and are therefore not subject to the provisions of 10 CFR Part 21. This change to § 72.6(b) will make clear that the provisions of Part 21, which relate to the reporting of defects and noncompliance and which apply, among others, to certain persons licensed to possess, use and/or transfer source, byproduct and/or special nuclear material, are not applicable to persons generally licensed under

§ 72.6(b). In order to recognize the establishment of the general license in 10 CFR 72.6(b), a minor corrective amendment is also made to § 72.2 which describes the scope of 10 CFR Part 72.

This final rule also makes minor conforming amendments to Parts 11, 19, 20, 21, 25, 75, 95, and 170 of the Commission's regulations to incorporate in each part, as appropriate, needed references to new Part 72.

Since the amendments are corrective and of a minor nature, good cause exists for omitting notice of proposed rulemaking and public procedure thereon as unnecessary and for making the amendments effective upon publication in the **Federal Register.**

Regulatory Flexibility Act Statement

This final rule is not subject to the provisions of the Regulatory Flexibility Act, Pub. L. 96–354, 94 Stat. 1164. The Commission has determined pursuant to 5 U.S.C. 553 that a notice of proposed rulemaking need not be issued and that the rule may be promulgated in final form and become effective on the date of publication in the **Federal Register.**

Paperwork Reduction Act Statement

The provisions of the Paperwork Reduction Act of 1980, Pub. L. 96–511, 94 Stat. 2812, are not applicable to this final rule because the final rule does not contain any new or amended requirements for recordkeeping, reporting, plans or procedures, applications, or any other type of information collection.

For the reasons set out in the preamble and pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1 of the Code of Federal Regulations are published as a document subject to codification.

47 FR 13774
Published 4/1/82
Effective 4/1/82

Reporting, Recordkeeping, and Application Requirements

See part 60 Statements of Consideration

47 FR 30452
Published 7/14/82
Effective 10/12/82

Protection of Employees Who Provide Information

See Part 19 Statements of Consideration

47 FR 41336
Published 9/20/82
Effective 9/20/82

Minor Clarifying Amendments

See Part 1 Statements of Consideration

49 FR 9352
Published 3/12/84
Effective: Upon approval of OMB or 6/7/84.

Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions and Related Conforming Amendments

See Part 51 Statements of Consideration

≫49 FR 24512
Published 6/14/84
Effective 6/7/84

Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions and Related Conforming Amendments

See Part 2 Statements of Consideration

PART 73

PHYSICAL PROTECTION OF PLANTS AND MATERIALS

General performance objectives and requirements

Sec.
73.1 Purpose and scope.
73.2 Definitions.
73.3 Interpretations.
73.4 Communications.
73.5 Specific exemptions.
73.6 Exemptions for certain quantities and kinds of special nuclear material.
73.8 Information collection requirements: OMB approval.
73.20 General performance requirements.
73.24 Prohibitions.

Physical Protection of Special Nuclear Material in Transit

73.25 Performance capabilities for physical protection of strategic special nuclear material in transit.
73.26 Transportation physical protection systems, subsystems, components, and procedures.
73.27 Notification requirements.
73.37 Requirements for physical protection of irradiated reactor fuel in transit.

Physical Protection Requirements at Fixed Sites

73.40 Physical protection: General requirements at fixed sites.
73.45 Performance capabilities for fixed site physical protection.
73.46 Fixed site physical protection systems, subsystems, components and procedures.
73.50 Requirements for physical protection of licensed activities.
73.55 Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.
73.60 Additional requirements for the physical protection of special nuclear material at non-power reactors.

Physical Protection of Special Nuclear Material of Moderate and Low Strategic Significance

73.67 Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance.

Records and Reports

73.70 Records.
73.71 Reports of unaccounted-for shipments, suspected thefts, unlawful diversion, radiological sabotage, or events which significantly threaten or lessen the effectiveness of safeguards.
73.72 Requirement for advance notice of shipment of special nuclear material.
73.73 Requirement for advance notice and protection of export shipments of special nuclear material of low strategic significance.
73.74 Requirement for advance notice and protection of import shipments of nuclear material from countries that are not party to the Convention on the Physical Protection of Nuclear Material.

Enforcement

73.80 Violations.

Appendices

Appendix A—United States Nuclear Regulatory Commission Inspection and Enforcement Regional Offices
Appendix B—General Criteria for Security Personnel
Appendix C—Licensee Safeguards Contingency Plans
Appendix D—Physical Protection of Irradiated Reactor Fuel in Transit, Training Program Subject Schedule
Appendix E—Levels of Physical Protection To Be Applied in International Transport of Nuclear Material
Appendix F—Nations That Are Parties to The Convention on the Physical Protection of Nuclear Material

Authority: Secs. 53, 161, 68 Stat. 930, 948, as amended, sec. 147, 94 Stat. 780 (42 U.S.C. 2073, 2167, 2201); sec. 201, as amended, 204, 88 Stat. 1242, as amended, 1245 (42 U.S.C. 5841, 5844).

Section 73.37(f) is also issued under sec. 301, Pub. L. 96–295, 94 Stat. 789 (42 U.S.C. 5841 note).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 73.21, 73.37(g), 73.55 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 73.20, 73.24, 73.25, 73.26, 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, 73.67 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 73.20(c)(1), 73.24(b)(1), 73.26 (b)(3), (h)(6), and (k)(4), 73.27 (a) and (b), 73.37(f), 73.40 (b) and (d), 73.46 (g)(6) and (h)(2), 73.50 (g) (2), (3)(iii)(B) and (h), 73.55(h) (2), and (4)(iii)(B), 73.70, 73.71, 73.72 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

50 FR 12221

§ 73.1 Purpose and scope.

(a) *Purpose*. This part prescribes requirements for the establishment and maintenance of a physical protection system which will have capabilities for the protection of special nuclear material at fixed sites and in transit and of plants in which special nuclear material is used. The following design basis threats, where referenced in ensuing sections of this part, shall be used to design safeguards systems to protect against acts of radiological sabotage and to prevent the theft of special nuclear material:

(1) *Radiological Sabotage*. (i) A determined violent external assault, attack by stealth, or deceptive actions, of several persons with the following attributes, assistance and equipment: (A) Well-trained (including military training and skills) and dedicated individuals, (B) inside assistance which may include a knowledgeable individual who attempts to participate in a passive role (e.g., provide information), an active role (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack), or both, (C) suitable weapons, up to and including hand-held automatic weapons, equipped with silencers and having effective long range accuracy, (D) hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter, or container integrity or features of the safeguards system, and

44 FR 68184

(ii) An internal threat of an insider, including an employee (in any position).

(2) *Theft or Diversion of Formula Quantities of Strategic Special Nuclear Material*. (i) A determined violent external assault, attack by stealth, or deceptive actions, by a small group with the following attributes, assistance and equipment: (A) Well-trained (including military training and skills) and dedicated individuals, (B) inside assistance which may include a knowledgeable individual who attempts

44 FR 68184

to participate in a passive role (e.g., provide information), an active role (e.g., facilitate entrance and exit, disable alarms and communications, participate in violent attack), or both, (C) suitable weapons, up to and including hand-held automatic weapons, equipped with silencers and having effective long range accuracy, (D) hand-carried equipment, including incapacitating agents and explosives for use as tools of entry or for otherwise destroying reactor, facility, transporter or container integrity or features of the safeguards system, and (E) the ability to operate as two or more teams,

(ii) An individual, including an employee (in any position), and

(iii) A conspiracy between individuals in any position who may have: (A) Access to and detailed knowledge of nuclear power plants or the facilities referred to in § 73.20(a), or (B) items that could facilitate theft of special nuclear material (e.g., small tools, substitute material, false documents, etc.), or both.

45 FR 67645

(b) *Scope.* (1) This part prescribes requirements for (i) the physical protection of production and utilization facilities licensed pursuant to Part 50 of this chapter, (ii) the physical protection of plants in which activities licensed pursuant to Part 70 of this chapter are conducted, and

47 FR 57446

(iii) the physical protection of special nuclear material by any person who, pursuant to the regulations in Part 61 or 70 of this chapter, possesses or uses at any site or contiguous sites subject to the control by the licensee, formula quantities of strategic special nuclear material or special nuclear material of moderate strategic significance or special nuclear material of low strategic significance.

(2) This part prescribes requirements for the physical protection of special nuclear material in transportation by any person who is licensed pursuant to the regulations in Part 70 and Part 110 of this chapter who imports, exports, transports, delivers to a carrier for transport in a single shipment, or takes delivery of a single shipment free on board (F.O.B.) where it is delivered to a carrier, formula quantities of strategic special nuclear material, special nuclear material of moderate strategic significance or special nuclear material of low strategic significance.

(3) This part also applies to shipments by air of special nuclear material in quantities exceeding (i) 20 grams or 20 curies, whichever is less, of plutonium or uranium-233, or (ii) 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope)

45 FR 67645

(4) Special nuclear material subject to this part may also be protected pursuant to security procedures prescribed by the Commission or another Government agency for the protection of classified materials. The provisions and requirements of this part are in addition to, and not in substitution for, any such security procedures. Compliance with the requirements of this part does not relieve any licensee from any requirement or obligation to protect special nuclear material pursuant to security procedures prescribed by the Commission or other Government agency for the protection of classified materials.

(5) This part also applies to the shipment of irradiated reactor fuel in quantities that in a single shipment both exceed 100 grams in net weight of irradiated fuel, exclusive of cladding or other structural or packaging material, and have a total radiation dose in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

45 FR 80271

(6) This part prescribes requirements for the physical protection of spent fuel stored in an independent spent fuel storage installation (ISFSI) licensed under Part 72 of this Chapter.

46 FR 51718

(7) This part prescribes requirements for the protection of Safeguards Information in the hands of any person, whether or not a licensee of the Commission, who produces, receives, or acquires Safeguards Information.

50 FR 12221

(8) This part prescribes requirements for advance notice of export and import shipments of special nuclear material, including irradiated reactor fuel.

NRC Rules and Regulations

Volume III

Parts 71 - [illegible] and Commission Notices

38 FR 35430

§ 73.2 Definitions.

As used in this part:

(a) Terms defined in Parts 50 and 70 of this chapter have the same meaning when used in this part.

44 FR 43780

(b) "Authorized individual" means any individual, including an employee, a student, a consultant, or an agent of a licensee who has been designated in writing by a licensee to have responsibility for surveillance of or control over special nuclear material or to have unescorted access to areas where special nuclear material is used or stored.

44FR68184

(c) "Guard" means a uniformed individual armed with a firearm whose primary duty is the protection of special nuclear material against theft, the protection of a plant against radiological sabotage, or both.

38 FR 35430

(d) "Watchman" means an individual, not necessarily uniformed or armed with a firearm, who provides protection for a plant and the special nuclear material therein in the course of performing other duties.

(e) "Continuous visual surveillance" means unobstructed view at all times of a shipment of special nuclear material, and of all access to a temporary storage area or cargo compartment containing the shipment.

44FR68184

(f) "Physical barrier" means

(1) Fences constructed of No. 11 American wire gauge, or heavier wire fabric, topped by three strands or more of barbed wire or similar material on brackets angled outward between 30° and 45° from the vertical, with an overall height of not less than eight feet, including the barbed topping;

(2) Building walls, ceilings and floors constructed of stone, brick, cinder block, concrete, steel or comparable materials (openings in which are secured by grates, doors, or covers of construction and fastening of sufficient strength such that the integrity of the wall is not lessened by any opening), or walls of similar construction, not part of a building, provided with a barbed topping described in paragraph (f)(1) of this section of a height of not less than 8 feet; or

(3) Any other physical obstruction constructed in a manner and of materials suitable for the purpose for which the obstruction is intended.

38 FR 35430

(g) "Protected area" means an area encompassed by physical barriers and to which access is controlled.

44FR68184

(h) "Vital area" means any area which contains vital equipment.

38 FR 35430

(i) "Vital equipment" means any equipment, system, device, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital.

(j) "Material access area" means any location which contains special nuclear material, within a vault or a building, the roof, walls, and floor of which each constitute a physical barrier.

44FR68184

(k) "Isolation zone" means any area adjacent to a physical barrier, clear of all objects which could conceal or shield an individual.

(l) "Intrusion alarm" means a tamper indicating electrical, electromechanical, electrooptical, electronic or similar device which will detect intrusion by an individual into a building, protected area, vital area, or material access area, and alert guards or watchmen by means of actuated visible and audible signals.

(m) "Lock" in the case of vaults or vault type rooms means a three-position, manipulation resistant, dial type, built-in combination lock or combination padlock and in the case of fences, walls, and buildings means an integral door lock or padlock which provides protection equivalent to a six-tumbler cylinder lock. "Lock" in the case of a vault or vault type room also means any manipulation resistant, electromechanical device which provides the same function as a built-in combination lock or combination padlock, which can be operated remotely or by the "reading" or insertion of information, which can be uniquely characterized, and which allows operation of the device. "Locked" means protected by an operable lock.

44FR68184

(n) "Vault" means a windowless enclosure with walls, floor, roof and door(s) designed and constructed to delay penetration from forced entry.

(o) "Vault-type room" means a room with one or more doors, all capable of being locked, protected by an intrusion alarm which creates an alarm upon the entry of a person anywhere into the room and upon exit from the room or upon movement of an individual within the room.

44FR68184

(p) "Radiological sabotage" means any deliberate act directed against a plant or transport in which an activity licensed pursuant to the regulations in this chapter is conducted, or against a component of such a plant or transport which could directly or indirectly endanger the public health and safety by exposure to radiation.

45FR14199

(q) "DOE" and "Department of Energy" means the Department of Energy established by the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565, 42 U.S.C. 7101 *et seq.*), to the extent that the Department, or its duly authorized representatives, exercises functions formerly vested in the U.S. Atomic Energy Commission, its Chairman, members, officers and components and transferred to the U.S. Energy Research and Development Administration and to the Administrator thereof pursuant to sections 104(b), (c) and (d) of the Energy Reorganization Act of 1974 (Pub. L. 93-438, 88 Stat. 1233 at 1237, 42 U.S.C. 5814) and retransferred to the Secretary of Energy pursuant to section 301(a) of the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565 at 577-578, 42 U.S.C. 7151).

(r) "Appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A" means:

(1) For domestic shipments—the Regional Office within whose region the licensee who is responsible for the physical protection arrangements of the shipment is located.

(2) For export shipments—the Regional Office within whose region the licensee who is responsible for the physical protection arrangements of the shipment is located, and the Regional Office for the region in which the last point of exit of the shipment from the U.S. is located.

(3) For import shipments—the Regional Office within whose region the licensee who is responsible for the physical protection arrangements of the shipment is located, and the Regional Office for the region in which the first point of entry of the shipment into the U.S. is located.

42 FR 10836

(s) "Bullet-resisting" means protection against complete penetration, passage of fragments of projectiles, and spalling (fragmentation) of the protective material that could cause injury to a person standing directly behind the bullet-resisting barrier.

43 FR 37421

(t) "Armed response personnel" means persons, not necessarily uniformed, whose primary duty in the event of attempted theft of special nuclear material or industrial sabotage shall be to respond, armed and equipped, to prevent or delay such actions.

(u) "Armed escort" means an armed person, not necessarily uniformed, whose primary duty is to accompany shipments of special nuclear material for the protection of such shipments against theft or industrial sabotage.

(v) "Security management" means persons responsible for security at the policy and general management level.

(w) "Security supervision" means persons, not necessarily uniformed or armed, whose primary duties are supervision and direction of security at the day-to-day operating level.

44 FR 43280

(x) "special nuclear material of moderate strategic significance" means.

(1) less than a formula quantity of strategic special nuclear material but more than 1000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or more than 500 grams of uranium-233 or plutonium or in a combined quantity of more than 1000 grams when computed by the equation, grams = (grams contained U-235) + 2 (grams U-233 + grams plutonium), or

(2) 10.000 grams or more of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U-235 isotope).

(y) "special nuclear material of low strategic significance" means.

(1) less than an amount of strategic special nuclear material of moderate strategic significance, as defined in § 73.2(x)(1), but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = grams contained U-235 + grams plutonium + grams U-233, or

(2) less than 10,000 grams but more than 1000 grams of uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U-235 isotope), or

(3) 10.000 grams or more of uranium-235 contained in uranium enriched above natural but less than 10 percent in the U-235 isotope.

(z) "Controlled access area" means any temporarily or permanently established area which is clearly demarcated, access to which is controlled and which affords isolation of the material or persons within it.

(aa) "Strategic special nuclear material" means uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium.

(bb) "Formula quantity" means strategic special nuclear material in any combination in a quantity of 5.000 grams or more computed by the formnula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium)

44 FR 43280

44 FR 68184

(cc) "Transport" means any land, sea, or air conveyance or modules for these conveyances such as rail cars or standardized cargo containers.

(dd) "Incendiary device" means any self-contained device intended to create an intense fire that can damage normally flame-resistant or retardant materials.

(ee) "Movement control center" means an operations center which is remote from transport activity and which maintains periodic position information on the movement of strategic special nuclear material, receives reports of attempted attacks or thefts, provides a means for reporting these and other problems to appropriate agencies and can request and coordinate appropriate aid.

(ff) "Force" means violent methods used by an adversary to attempt to steal strategic special nuclear material or to sabotage a nuclear facility or violent methods used by response personnel to protect against such adversary actions.

(gg) "Stealth" means methods used to attempt to gain unauthorized access, introduce unauthorized materials, or remove strategic special nuclear material, where the fact of such attempt is concealed or an attempt is made to conceal it.

(hh) "Deceit" means methods used to attempt to gain unauthorized access, introduce unauthorized materials, or remove strategic special nuclear materials, where the attempt involves falsification to present the appearance of authorized access.

(ii) "Undergoing processing" means performing active operations on material such as chemical transformation, physical transformation, or transit between such operations, to be differentiated from storage or packaging for shipment.

46 FR 51718

(jj) "Safeguards Information" means information not otherwise classified as National Security Information or Restricted Data which specifically identifies a licensee's or applicant's detailed, (1) security measures for the physical protection of special nuclear material, or (2) security measures for the physical protection and location of certain plant equipment vital to the safety of production or utilization facilities.

(kk) "Need to know" means a determination by a person having responsibility for protecting Safeguards Information that a proposed recipient's access to Safeguards Information is necessary in the performance of official, contractual, or licensee duties of employment.

(ll) "Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, government agency other than the Commission or the Department of Energy (DOE), (except that the DOE shall be considered a person to the extent that its facilities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 and sections 104, 105, and 202 of the Uranium Mill Tailings Radiation Control Act of 1978), any state or political subdivision of a state, or any political subdivision of any government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

(mm) "Security Storage Container" includes any of the following repositories: (1) For storage in a building located within a protected or controlled access area, a steel filing cabinet equipped with a steel locking bar and a three position, changeable combination, GSA approved padlock; (2) A security filing cabinet that bears a Test Certification Label on the side of the locking drawer, or interior plate, and is marked, "General Services Administration Approved Security Container" on the exterior of the top drawer or door; (3) A bank safe-deposit box; and (4) Other repositories which in the judgement of the NRC, would provide comparable physical protection.

PART 73 • PHYSICAL PROTECTION OF PLANTS AND MATERIALS

§ 73.3 Interpretations.

38 FR 35430

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized as binding upon the Commission.

§ 73.4 Communications.

42 FR 10836

Except where otherwise specified, all communications and reports concerning the regulations in this part should be addressed to the Director of Nuclear Materials Safety and Safeguards or the Director of Nuclear Reactor Regulation, as appropriate, Nuclear Regulatory Commission, Washington, D.C. 20555, or may be delivered in person at the Commission offices at 1717 H Street, N.W., Washington, D.C.; or at 7920 Norfolk Avenue, Bethesda, Maryland.

§ 73.5 Specific exemptions.

38 FR 35430

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

§ 73.6 Exemptions of certain quantities and kinds of special nuclear material.

44FR68184

A licensee is exempt from the requirements of §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.70 and 73.72 with respect to the following special nuclear material:

40 FR 52840

(a) Uranium-235 contained in uranium enriched to less than 20 percent in the U-235 isotope:

(b) Special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding; and

(c) Special nuclear material in a quantity not exceeding 350 grams of uranium-235, uranium-233, plutonium, or a combination thereof, possessed in any analytical, research, quality control, metallurgical or electronic laboratory.

44FR68184

(d) Special nuclear material that is being transported by the United States Department of Energy transport system.

(e) Special nuclear material at non-power reactors.

Licensees subject to § 73.60 are not exempted from §§ 73.70 and 73.72, and licensees subject to § 73.67(e) are not exempted from § 73.72 of this part.

§ 73.8 Information collection requirements: OMB approval.

49 FR 19623

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150–0002.

(b) The approved information collection requirements contained in this part appear in §§ 73.20, 73.24, 73.25, 73.26, 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, 73.67, 73.70, 73.71, 73.72, and Appendices B and C.

§ 73.20 General performance objective and requirements.

44 FR 68184

(a) In addition to any other requirements of this part, each licensee who is authorized to operate a fuel reprocessing plant pursuant to Part 50 of this chapter; possesses or uses formula quantities of strategic special nuclear material at any site or contiguous sites subject to control by the licensee; is authorized to transport or deliver to a carrier for transportation pursuant to Part 70 of this chapter formula quantities of strategic special nuclear material; takes delivery of formula quantities of strategic special nuclear material free on board (f.o.b.) the point at which it is delivered to a carrier for transportation; or imports or exports formula quantities of strategic special nuclear material, shall establish and maintain or make arrangements for a physical protection system which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security, and do not constitute an unreasonable risk to the public health and safety. The physical protection system shall be designed to protect against the design basis threats of theft or diversion of strategic special nuclear material and radiological sabotage as stated in § 73.1(a).

(b) To achieve the general performance objective of paragraph (a) of this section a licensee shall establish and maintain, or arrange for, a physical protection system that:

(1) Provides the performance capabilities described in § 73.25 for in-transit protection or in § 73.45 for fixed site protection unless otherwise authorized by the Commission;

(2) Is designed with sufficient redundancy and diversity to assure maintenance of the capabilities described in §§ 73.25, 73.45; and

(3) Includes a testing and maintenance program to assure control over all activities and devices affecting the effectiveness, reliability, and availability of the physical protection system, including a demonstration that any defects of such activities and devices will be promptly detected and corrected for the total period of time they are required as a part of the physical protection system.

44 FR 68184

(c) Each licensee subject to the requirements of paragraphs (a) and (b) of this section shall:

(1) Within 150 days after the effective date of these amendments, submit a revised fixed site safeguards physical protection plan and, if appropriate, a revised safeguards transportation protection plan describing how the licensee will comply with the requirements of paragraph (a) of this section; and

(2) Within 360 days after the effective date of these amendments or 90 days after the plan submitted pursuant to paragraph (c)(1) of this section is approved, whichever is later, implement the approved plan except for activities specifically identified by the licensee which involve new construction, significant physical modification of existing structures or major equipment installation, for which 540 days after the effective date of these amendments or 180 days after the plan(s) is approved, whichever is later, will be allowed.

§ 73.21 Requirements for the protection of safeguards information.

46 FR 51718

(a) *General performance requirement.* Each licensee who (1) possesses a formula quantity of strategic special nuclear material, or (2) is authorized to operate a nuclear power reactor, or (3) transports, or delivers to a carrier for transport, a formula quantity of strategic special nuclear material or more than 100 grams of irradiated reactor fuel, and each person who produces, receives, or acquires Safeguards Information shall ensure that Safeguards Information is protected against unauthorized disclosure. To meet this general performance requirement, licensees and persons subject to this section shall establish and maintain an information protection system that includes the measures specified in paragraphs (b) through (i) of this section. Information protection procedures employed by State and local police forces are deemed to meet these requirements.

(b) *Information to be protected.* The specific types of information, documents, and reports that shall be protected are as follows:

(1) *Physical Protection at Fixed Sites.* Information not otherwise classified as Restricted Data or National Security Information relating to the protection of facilities that possess formula quantities of strategic special nuclear material, and power reactors. Specifically: (i) The composite physical security plan for the

nuclear facility or site.

(ii) Site specific drawings, diagrams, sketches, or maps that substantially represent the final design features of the physical protection system.

(iii) Details of alarm system layouts showing location of intrusion detection devices, alarm assessment equipment, alarm system wiring, emergency power sources, and duress alarms.

(iv) Written physical security orders and procedures for members of the security organization, duress codes, and patrol schedules.

(v) Details of the on-site and off-site communications systems that are used for security purposes.

(vi) Lock combinations and mechanical key design.

(vii) Documents and other matter that contain lists or locations of certain safety-related equipment explicity identified in the documents as vital for purposes of physical protection, as contained in physical security plans, safeguards contingency plans, or plant specific safeguards analyses for production or utilization facilities.

(viii) The composite safeguards contingency plan for the facility or site.

(ix) Those portions of the facility guard qualification and training plan which disclose features of the physical security system or response procedures.

(x) Response plans to specific threats detailing size, disposition, response times, and armament of responding forces.

(xi) Size, armament, and disposition of on-site reserve forces.

(xii) Size, identity, armament, and arrival times of off-site forces committed to respond to safeguards emergencies.

(2) *Physical protection in transit.* Information not otherwise classified as Restricted Data or National Security Information relative to the protection of shipments of formula quantities of strategic special nuclear material and spent fuel. Specifically: (i) The composite transportation physical security plan.

(ii) Schedules and itineraries for specific shipments. (Routes and quantities for shipments of spent fuel are not withheld from public disclosure. Schedules for spent fuel shipments may be released 10 days after the last shipment of a current series.)

(iii) Details of vehicle immobilization features, intrusion alarm devices, and communication systems.

(iv) Arrangements with and capabilities of local police response forces, and locations of safe havens.

(v) Details regarding limitations of radio-telephone communications.

(vi) Procedures for response to safeguards emergencies.

(3) *Inspections, audits and evaluations.* Information not otherwise classified as National Security Information or Restricted Data relating to safeguards inspections and reports. Specifically:

(i) Portions of safeguards inspection reports, evaluations, audits, or investigations that contain details of a licensee's or applicant's physical security system or that disclose uncorrected defects, weaknesses, or vulnerabilities in the system. Information regarding defects, weaknesses or vulnerabilities may be releases after corrections have been made. Reports of investigations may be released after the investigation has been completed, unless withheld pursuant to other authorities, e.g., the Freedom of Information Act (5 U.S.C. 552).

(4) *Correspondence.* Portions of correspondence insofar as they contain Safeguards Information specifically defined in paragraphs (b)(1) through (b)(3) of this paragraph.

(c) *Access to Safeguards Information.* (1) Except as the Commission may otherwise authorize, no person may have access to Safeguards Information unless the person has an established "need to know" for the information and is:

(i) An employee, agent, or contractor of an applicant, a licensee, the Commission, or the United States Government;

(ii) A member of a duly authorized commmittee of the Congress;

(iii) The Governor of a State or designated representatives;

(iv) A representative of the International Atomic Energy Agency (IAEA) engaged in activities associated with the U.S./IAEA Safeguards Agreement who has been certified by the NRC;

(v) A member of a state or local law enforcement authority that is responsible for responding to requests for assistance during safeguards emergencies; or

(vi) An individual to whom disclosure is ordered pursuant to § 2.744(e) of this chapter.

(2) Except as the Commission may otherwise authorize, no person may disclose Safeguards Information to any other person except as set forth in paragraph (c)(1) of this section.

(d) *Protection while in use or storage.* (1) While in use, matter containing Safeguards Information shall be under the control of an authorized individual.

(2) While unattended, Safeguards Information shall be stored in a locked security storage container. Knowledge of lock combinations protecting Safeguards Information shall be limited to a minimum number of personnel for operating purposes who have a "need to know" and are otherwise authorized access to Safeguards Information in accordance with the provisions of this section.

(e) *Preparation and marking of documents.* Each document or other matter that contains Safeguards Information as defined in paragraph (b) in this section shall be marked "Safeguards Information" in a conspicuous manner to indicate the presence of protected information (portion marking is not required for the specific items of information set forth in paragraph § 73.21(b) other than guard qualification and training plans and correspondence to and from the NRC). Documents and other matter containing Safeguards Information in the hands of contractors and agents of licensees that were produced more than one year prior to the effective date of this amendment need not be marked unless they are removed from storage containers for use.

(f) *Reproduction and destruction of matter containing Safeguards Information.* (1) Safeguards Information may be reproduced to the minimum extent necessary consistent with need without permission of the originator.

(2) Documents or other matter containing Safeguards Information may be destroyed by any method that assures complete destruction of the Safeguards Information they contain.

(g) *External transmission of documents and material.* (1) Documents or other matter containing Safeguards Information, when transmitted outside an authorized place of use or storage, shall be packaged to preclude disclosure of the presence of protected information.

(2) Safeguards Information may be transported by messenger-courier, United States first class, registered, express, or certified mail, or by any individual authorized access pursuant to § 73.21(c).

(3) Except under emergency or extraordinary conditions, Safeguards Information shall be transmitted only by protected telecommunications circuits (including facsimile) approved by the NRC. Physical security events required to be reported pursuant to § 73.71 are considered to be extraordinary conditions.

(h) *Use of automatic data processing (ADP) systems.* Safeguards Information may be processed or produced on an ADP system provided that the system is self-contained within the licensee's or his contractor's facility and requires the use of an entry code for access to stored information. Other systems may be used if approved for security by the NRC.

(i) *Removal from Safeguards Information category.* Documents originally containing Safeguards Information shall be removed from the Safeguards Information category whenever the information no longer meets the criteria contained in this section.

46 FR 51718

46 FR 51718

46 FR 51718

§ 73.24 Prohibitions.

(a) Except as specifically approved by the Nuclear Regulatory Commission, no shipment of special nuclear material shall be made in passenger aircraft in excess of (1) 20 grams or 20 curies, whichever is less, of plutonium or uranium-233, or (2) 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope).

(b) Unless otherwise approved by the Nuclear Regulatory Commission, no licensee may make shipments of special nuclear material in which individual shipments are less than a formula quantity, but the total quantity in shipments in transit at the same time could equal or exceed a formula quantity, unless either of the following conditions are met: 44 FR 68184

(1) The licensee shall confirm and log the arrival at the final destination of each individual shipment, and schedule shipments to assure that the total quantity for two or more shipments in transit at the same time does not equal or exceed the formula quantity, or

(2) Physical protection in accordance with the requirements of §§ 73.20, 73.25, and 73.26 is provided by the licensee for such shipments as appropriate so that the total quantity of special nuclear material in the remaining shipments not so protected, and in transit at the same time, does not equal or exceed a formula quantity.

Physical Properties of Special Nuclear material in Transit

§ 73.25 Performance capabilities for physical protection of strategic special nuclear material in transit.

(a) To meet the general performance objective and requirements of § 73.20 an in-transit physical protection system shall include the performance capabilities described in paragraphs (b) through (d) of this section unless otherwise authorized by the Commission.

(b) Restrict access to and activity in the vicinity of transports and strategic special nuclear material. To achieve this capability the physical protection system shall:

(1) Minimize the vulnerability of the strategic special nuclear material by using the following subfunctions and procedures:

(i) Preplanning itineraries for the movement of strategic special nuclear material;

(ii) Periodically updating knowledge of route conditions for the movement of strategic special nuclear material;

(iii) Maintaining knowledge of the status and position of the strategic special nuclear material en route; and

(iv) Determining and communicating alternative itineraries en route as conditions warrant.

(2) Detect and delay any unauthorized attempt to gain access or introduce unauthorized materials by stealth or force into the vicinity of transports and strategic special nuclear material using the following subsystems and subfunctions:

(i) Controlled access areas to isolate strategic special nuclear material and transports to assure that unauthorized persons shall not have direct access to, and unauthorized materials shall not be introduced into the vicinity of, the transports and strategic special nuclear material, and 44 FR 68184

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized penetration (or such attempts) of a controlled access area by persons, vehicles or materials so that the response will satisfy the general performance objective and requirements of § 73.20(a).

(3) Detect attempts to gain unauthorized access or introduce unauthorized materials into the vicinity of transports by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and access criteria for persons, materials and vehicles; and

(ii) Access controls and procedures to verify the identity of persons, materials and vehicles, to assess such identity against current authorization schedules and access criteria before permitting access, and to initiate response measures to deny unauthorized entries.

(c) Prevent or delay unauthorized entry or introduction of unauthorized materials into, and unauthorized removal of, strategic special nuclear material from transports. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized entry or introduce unauthorized materials into transports by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and

procedures to provide current authorization schedules and entry criteria for access into transports for both persons and materials; and

(ii) Entry controls and procedures to verify the identity of persons and materials and to permit transport entry only to those persons and materials specified by the current authorization schedules and entry criteria.

(2) Detect attempts to gain unauthorized entry or introduce unauthorized material into transports by stealth or force using the following subsystems and subfunctions:

(i) Transport features to delay access to strategic special nuclear material sufficient to permit the detection and response systems to function so as to satisfy the general performance objective and requirements of § 73.20(a);

(ii) Inspection and detection subsystems and procedures to detect unauthorized tampering with transports and cargo containers; and

(iii) Surveillance subsystems and procedures to detect, assess and communicate any unauthorized presence of persons or materials and any unauthorized attempt to penetrate the transport so that the response will satisfy the general performance objective and requirements of § 73.20(a). 44 FR 68184

(3) Prevent unauthorized removal of strategic special nuclear material from transports by deceit using the following subsystems and subfunctions:

(i) Authorization controls and procedures to provide current schedules for authorized removal of strategic special nuclear material which specify the persons authorized to remove and receive the material, the authorized times for such removal and receipt and authorized places for such removal and receipt.

(ii) Removal controls and procedures to establish activities for transferring cargo in emergency situations; and

(iii) Removal controls and procedures to permit removal of strategic special nuclear material only after verification of the identity of persons removing or receiving the strategic special nuclear material, and after verification of the identity and integrity of the strategic special nuclear material being removed from transports.

(4) Detect attempts to remove strategic special nuclear material from transports by stealth or force using the following subsystems and subfunctions:

(i) Transport features to delay unauthorized strategic special nuclear material removal attempts sufficient to assist detection and permit a response to satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Detection subsystems and procedures to detect, assess and communicate any attempts at unauthorized removal of strategic special nuclear material so that response to the attempt can be such as to satisfy the general performance objective and requirements of § 73.20(a).

(d) Respond to safeguards contingencies and emergencies to assure that the two capabilities in paragraphs (b) and (c) of this section are achieved, and to engage and impede adversary forces until local law enforcement forces arrive. To achieve this capability, the physical protection system shall:

(1) Respond rapidly and effectively to safeguards contingencies and emergencies using the following subsystems and subfunctions:

(i) A security organization composed of trained and qualifed personnel, including armed escorts, one of whom is designated as escort commander, with procedures for command and control, to execute response functions.

(ii) Assessment procedures to assess the nature and extent of security related incidents.

(iii) A predetermined plan to respond to safeguards contingency events.

(iv) Equipment and procedures to enable responses to security related incidents sufficiently rapid and effective to achieve the predetermined objective of each action. 44 FR 68184

(v) Equipment, vehicle design features, and procedures to protect security organization personnel, including those at the movement control center, in their performance of assessment and response related functions.

(2) Transmit detection, assessment and other response related information using the following subsystems and subfunctions:

(i) Communications equipment and procedures to rapidly and accurately transmit security information among armed escorts.

(ii) Equipment and procedures for two-way communications between the escort commander and the movement control center to rapidly and accurately transmit assessment information and requests for assistance by local law enforcement forces, and to coordinate such assistance.

(iii) Communications equipment and procedures for the armed escorts and the movement control center personnel to notify local law enforcement forces of the need for assistance.

(3) Establish liaisons with local law enforcement authorities to arrange for assistance en route.

(4) Assure that a single adversary action cannot destroy the capability of armed escorts to notify the local law enforcement forces of the need for assistance.

§ 73.26 Transportation physical protection systems, subsystems, components, and procedures.

(a) A transportation physical protection system established pursuant to the general performance objectives and requirements of § 73.20 and performance capability requirements of § 73.25 shall include, but are not necessarily limited to, the measures specified in paragraphs (b) through (l) of this section. The Commission may require, depending on the individual transportation conditions or circumstances, alternate or additional measures deemed necessary to meet the general performance objectives and requirements of §73.20. The Commission also may authorize protection measures other than those required by this section if, in its opinion, the overall level of performance meets the general performance objectives and requirements of § 73.20 and the performance capability requirements of § 73.25.

(b) Planning and Scheduling.

(1) Shipments shall be scheduled to avoid regular patterns and preplanned to avoid areas of natural disaster or civil disorders, such as strikes or riots. Such shipments shall be planned in order to avoid storage times in excess of 24 hours and to assure that deliveries occur at a time when the receiver at the final delivery point is present to accept the shipment. 44 FR 68184

(2) Arrangements shall be made with law enforcement authorities along the route of shipments for their response to an emergency or a call for assistance.

(3) Security arrangements for each shipment shall be approved by the Nuclear Regulatory Commission prior to the time for the seven-day notice required by § 73.72. Information to be supplied to the Commission in addition to the general security plan information is as follows:

(i) Shipper, consignee, carriers, transfer points, modes of shipment,

(ii) Point where escorts will relinquish responsibility or will accept responsibility for the shipment,

(iii) Arrangements made for transfer of shipment security, and

(iv) Security arrangements at point where escorts accept responsibility for an import shipment.

(4) Hand-to-hand receipts shall be completed at origin and destination and at all points enroute where there is a transfer of custody.

(c) Export/Import Shipments.

(1) A licensee who imports a formula quantity of strategic special nuclear material shall make arrangements to assure that the material will be protected in transit as follows:

(i) An individual designated by the licensee or his agent, or as specified by a contract of carriage, shall confirm the container count and examine locks and/or seals for evidence of tampering, at the first place in the United States at which the shipment is discharged from the arriving carrier.

(ii) The shipment shall be protected at all times within the geographical limits of the United States as provided in this section and §§ 73.25 and 73.27.

(2) A licensee who exports a formula quantity of strategic special nuclear material shall comply with the requirements of this section and §§ 73.25 and 73.27, as applicable, up to the first point where the shipment is taken off the transport outside the United States.

(d) Security Organization.

(1) The licensee or his agent shall establish a transportation security organization, including armed escorts, armed response personnel or guards, and a movement control center manned and equipped to monitor and control shipments, to communicate with local law enforcement authorities, and to respond to safeguards contingencies.

(2) At least one full time member of the security organization who has the authority to direct the physical protection activities of the security organization shall be on duty at the movement control center during the course of any shipment.

44FR68184

(3) The licensee or his agent shall establish, maintain, and follow a management system to provide for the development, revision, implementation, and enforcement of transportation physical protection procedures. The system shall include:

(i) Written security procedures which document the structure of the transportation security organization and which detail the duties of drivers and escorts and other individuals responsible for security; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the security function.

(4) Neither the licensee or his agent shall permit an individual to act as an escort or other security organization member unless such individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with Appendix B, of this part, "General Criteria for Security Personnel." Upon the request of an authorized representative of the Commission the licensee or his agent shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Armed escorts shall requalify in accordance with Appendix B of this part at least every 12 months. Such requalification shall be documented.

(5) Armed escort and armed response force personnel armament shall include handguns, shotguns, and semiautomatic rifles, as described in Appendix B to this part.

(e) Contingency and Response Plans and Procedures.

(1) The licensee or his agent shall establish, maintain, and follow a safeguards contingency plan for dealing with threats, thefts, and radiological sabotage related to strategic special nuclear material in transit subject to the provisions of this section. Such safeguards contingency plan shall be in accordance with the criteria in Appendix C to this part, "Licensee Safeguards Contingency Plan."

(2) Upon detection of abnormal presence or activity of persons or vehicles attempting to penetrate a moving convoy or persons attempting to gain access to a parked cargo vehicle or upon evidence or indication of penetration of the cargo vehicle the armed escorts or other armed response personnel shall:

(i) Determine whether or not a threat exists;

(ii) Assess the extent of the threat, if any;

(iii) Take immediate concurrent measures to neutralize the threat by:

44FR68184

(A) Making the necessary tactical moves to prevent or impede acts of radiological sabotage or theft of strategic special nuclear material, and

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(3) The licensee or his agent shall instruct every armed escort and all armed response personnel to prevent or impede acts of radiological sabotage or theft of strategic special material by using sufficient force to counter the force directed at him including the use of deadly force when armed escorts or armed response personnel have a reasonable belief that it is necessary in self-defense or in the defense of others.

(f) Transfer and Storage of Strategic Special Nuclear Material for Domestic Shipments.

(1) Strategic special nuclear material shall be placed in a protected area at transfer points if transfer is not immediate from one transport to another. Where a protected area is not available a controlled access area shall be established for the shipment. The transport may serve as a controlled access area.

(2) All transfers shall be protected by at least seven armed escorts or other armed personnel—one of whom shall serve as commander. At least five of the armed personnel (including the commander) shall be available to protect the shipment and at least three of the five shall keep the strategic special nuclear material under continuous surveillance while it is at the transfer point. The two remaining armed personnel shall take up positions at a remote monitoring location. The remote location may be a radio-equipped vehicle or a nearby place, apart from the shipment area, so that a single act cannot remove the capability of the personnel protecting the shipment for calling for assistance. Each of the seven armed escorts or other armed personnel shall be capable of maintaining communication with each other. The commander shall have the capability to communicate with the personnel at the remote location and with local law enforcement agencies for emergency assistance. In addition, the armed escort personnel at the remote location shall have the capability to communicate with the law enforcement agencies and with the shipment movement control center. The commander shall call the remote location at least every 30 minutes to report the status of the shipment. If the calls are not received within the prescribed time, the personnel in the remote location shall request assistance from the law enforcement authorities, notify the shipment movement control center and initiate the appropriate contingency plans. Armed escorts or other armed personnel shall observe the opening of the cargo compartment of the incoming transport and ensure that the shipment is complete by checking locks and seals. A shipment loaded onto or transferred to another transport shall be checked to assure complete loading or transfer. Continuous visual surveillance of the cargo compartment shall be maintained up to the time the transport departs from the terminal. The escorts shall observe the transport until it has departed and shall notify the licensee or his agent of the latest status immediately thereafter.

44FR68184

(g) Access Control Subsystems and Procedures.

(1) A numbered picture badge identification procedure shall be used to identify all individuals who will have custody of a shipment. The identification procedure shall require that the individual who has possession of the strategic special nuclear material shall have, in advance, identification picture badges of all individuals who are to assume custody for the shipment. The shipment shall be released only when the individual who has possession of strategic special nuclear material has

assured positive identification of all of the persons assuming custody for the shipment by comparing the copies of the identification badges that have been received in advance to the identification badges carried by the individuals who will assume custody of the shipment.

(2) Access to protected areas, controlled access areas, transports, escort vehicles, aircraft, rail cars, and containers where strategic special nuclear material is located shall be limited to individuals who have been properly identified and have been authorized access to these areas.

(3) Strategic special nuclear material shall be shipped in containers that are protected by tamper-indicating seals. The containers also shall be locked if they are not in another locked container or transport. The outermost container or transport also shall be protected by tamper-indicating seals.

(h) Test and Maintenance Programs. The licensee or his agent shall establish, maintain and follow a test and maintenance program for communications equipment and other physical protection related devices and equipment used pursuant to this section which shall include the following:

(1) Tests and inspections shall be 44FR68184 conducted during the installation, and construction of physical protection related subsystems and components to assure that they comply with their respective design criteria and performance specifications.

(2) Preoperational tests and inspections shall be conducted for physical protection related subsystems and components to demonstrate their effectiveness, availability, and reliability with respect to their respective design criteria and performance specifications.

(3) Operational tests and inspections shall be conducted for physical protection related subsystems and components to assure their maintenance in an operable and effective condition.

(4) Preventive maintenance programs shall be established for physical protection related subsystems and components to assure their continued maintenance in an operable and effective condition.

(5) All physical protection related subsystems and components shall be maintained in operable condition. Corrective action procedures and compensatory measures shall be developed and employed to assure that the effectiveness of the physical protection system is not reduced by any single failure or other contingencies affecting the operation of the physical protection related equipment or structures.

(6) The transportation security program shall be reviewed at least every 12 months or prior to each use, whichever is greater, by individuals independent of both security management and security supervision. Such a review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, an audit of the physical protection system testing and maintenance program, and an audit of commitments established for response by local law enforcement authorities. The results of the review and the audit along with recommendations for improvements shall be documented, reported to the responsible organization management, and kept available for inspection for a period of five years.

(i) Shipment by road.

(1) A detailed route plan shall be prepared which shows the routes to be taken, the refueling and rest stops, and the call-in times to the movement control center. All shipments shall be made on primary highways with minimum use of secondary roads. All shipments shall be made without intermediate stops except for refueling, rest or emergency stops.

(2) Cargo compartments of the trucks 44FR68184 or trailers shall be locked and protected by tamper-indicating seals.

(3) The shipment shall be protected by one of the following methods:

(i) A specially designed cargo vehicle truck or trailer that reduces the vulnerability to theft. Design features of the truck or trailer shall permit immobilization of the truck or of the cargo-carrying portion of the vehicle and shall provide a deterrent to physical penetration of the cargo compartment. Two separate escort vehicles shall accompany the cargo vehicle. There shall be a total of seven armed escorts with at least two in the cargo vehicle. Escorts may also operate the cargo and escort vehicles.

(ii) An armored car cargo vehicle. Three separate escort vehicles shall accompany such a cargo vehicle. There shall be a total of seven armed escorts, with at least two in the cargo vehicle. Escorts may also operate the cargo and escort vehicles.

(4) All escort vehicles shall be bullet-resisting.

(5) Procedures shall be established to assure that no unauthorized persons or materials are on the cargo vehicle before strategic special nuclear material is loaded, or on the escort vehicles, immediately before the trip begins.

(6) Cargo and escort vehicles shall maintain continuous intraconvoy two-way communication. In addition at least two of the vehicles shall be equipped with radio telephones having the capability of communicating with the movement control center. A redundant means of communication shall also be available. Calls to the movement control center shall be made at least every half hour to convey the status and position of the shipment. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify the law enforcement authorities and the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A of this part and initiate the appropriate contingency plan.

(7) At refueling, rest, or emergency stops at least seven armed escorts or other armed personnel shall be available to protect the shipment and at least three armed escorts or other armed personnel shall maintain continuous visual surveillance of the cargo compartment.

(8) Transfers to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(j) Shipment by Air.

(1) All shipments on commercial cargo aircraft shall be accompanied by two 44FR68184 armed escorts who shall be able to converse in a common language with the captain of the aircraft.

(2) Transfers of these shipments shall be minimized and shall be conducted in accordance with paragraph (f) of this section. Such shipments shall be scheduled so that the strategic special nuclear material is loaded last and unloaded first.

(3) At scheduled stops, at least seven armed escorts or other armed personnel shall be available to protect the shipment and at least three armed escorts or other armed personnel shall maintain continuous visual surveillance of the cargo compartment.

(4) Export shipments shall be accompanied by two armed escorts from the last terminal in the United States until the shipment is unloaded at a foreign terminal and primary responsibility for physical protection is assumed by agents of the consignee. While on foreign soil, the escorts may surrender their weapons to legally constituted local authorities. After leaving the last terminal in the United States the shipment shall be scheduled with no intermediate stops.

(5) Import shipments shall be accompanied by two armed escorts at all times within the geographical limits of the United States. These escorts shall provide physical protection for the shipment until relieved by verified agents of the U.S. consignee.

(6) Procedures shall be established to assure that no unauthorized persons or material are on the aircraft before strategic special nuclear material is loaded on board.

(7) Arrangements shall be made at all domestic airports to assure that the seven required armed escorts or other armed personnel are available and that the required security measures will be taken upon landing.

(8) Arrangements shall be made at the foreign terminal at which the shipment is to be unloaded to assure that security measures will be taken on arrival.

(k) Shipment by Rail.

(1) A shipment by rail shall be escorted by seven armed escorts in the shipment car or an escort car next to the shipment car of the train. At least three escorts shall keep the shipment car under continuous visual surveillance. Escorts shall detrain at stops when practicable and time permits to maintain the shipment cars under continuous visual surveillance and to check car or container locks and seals.

(2) Procedures shall be established to assure that no unauthorized persons or materials are on the shipment or escort car before strategic special nuclear material is loaded on board.

44 FR 68184

(3) Only containers weighing 5,000 lbs or more shall be shipped on open rail cars.

(4) A voice communication capability between the escorts and the movement control center shall be maintained. A redundant means of continuous communication also shall be available. Calls to the movement control center shall be made at least every half hour to convey the status and position of the shipment. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify the law enforcement authorities and the appropriate Nuclear Regulatory Commission Regional Office listed in Appendix A of this part and initiate their contingency plan.

(5) Transfer to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(l) *Shipment by sea.* (1) Shipments shall be made only on container-ships. The strategic special nuclear material container(s) shall be loaded into exclusive use cargo containers conforming to American National Standards Institute (ANSI) Standard MH5.1—"Basic Requirements for Cargo Containers" (1971) or International Standards Organization (ISO) 1496, "General Cargo Containers" (1978) Locks and seals shall be inspected by the escorts whenever access is possible.

46 FR 2025

(2) All shipments shall be accompanied by two armed escorts who shall be able to converse in a common language with the captain of the ship.

(3) Minimum domestic ports of call shall be scheduled and there shall be no scheduled transfer to other vessels after the shipment leaves the last port in the United States. Transfer to and from other modes of transportation shall be in accordance with paragraph (f) of this section.

(4) At all ports of call the escorts shall ensure that the shipment is not removed. At least two armed escorts or other armed personnel shall maintain continuous visual surveillance of the cargo area where the container is stored up to the time the ship departs.

(5) Export shipments shall be accompanied by two armed escorts from the last port in the United States until the shipment is unloaded at a foreign terminal and prime responsibility for physical protection is assumed by agents of the consignee. While on foreign soil, the escorts may surrender their weapons to legally constituted local authorities.

(6) Import shipments shall be accompanied by two armed escorts at all times within the geographical limits of the United States. These escorts shall provide physical protection for the shipment until relieved by verified agents of the U.S. consignee.

44 FR 68184

(7) Ship-to-shore communications shall be available, and a ship-to-shore contact shall be made every six hours to relay position information, and the status of the shipment.

(8) Arrangements shall be made at the foreign terminals at which the shipment is to be unloaded to assure that security measures will be taken upon arrival.

§ 73.27 Notification requirements.

(a)(1) A licensee who delivers formula quantities of strategic special nuclear material to a carrier for transport shall immediately notify the consignee by telephone, telegraph, or teletype, of the time of departure of the shipment, and shall notify or confirm with the consignee the method of transportation, including the names of carriers, and the estimated time of arrival of the shipment at its destination. (2) In the case of a shipment (f.o.b.) the point where it is delivered to a carrier for transport, a licensee shall, before the shipment is delivered to the carrier, obtain written certification from the licensee who is to take delivery of the shipment at the f.o.b. point that the physical protection arrangements required by §§ 73.25 and 73.26 for licensed shipments have been made. When a contractor exempt from the requirements for a Commission license is the consignee of a shipment, the licensee shall, before the shipment is delivered to the carrier, obtain written certification from the contractor who is to take delivery of the shipment at the f.o.b. point that the physical protection arrangements required by the United States Department of Energy Order Nos. 5632.1 or 5632.2, as appropriate, have been made. (3) A licensee who delivers formula quantities of strategic special nuclear material to a carrier for transport or releases such special nuclear material f.o.b. at the point where it is delivered to a carrier for transport shall also make arrangements with the consignee to be notified immediately by telephone and telegraph, teletype, or cable, of the arrival of the shipment at its destination or of any such shipment that is lost or unaccounted for after the estimated time of arrival at its destination.

(b) Each licensee who receives a shipment of formula quantities of strategic special nuclear material shall immediately notify by telephone and telegraph or teletype, the person who delivered the material to a carrier for transport and the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A of the arrival of the shipment at its destination. When a United States Department of Energy license-exempt contractor is the consignee, the licensee who is the consignor shall notify by telephone and telegraph, or teletype, the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A of the arrival of the shipment at its destination immediately upon being notified of the receipt of the shipment by the license-exempt contractor as arranged pursuant to paragraph (a)(3) of this section. In the event such a shipment fails to arrive at its destination at the estimated time, or in the case of an export shipment, the licensee who exported the shipment, shall immediately notify by telephone and telegraph or teletype, the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A of this part, and the licensee or other person who delivered the material to a carrier for transport. The licensee who made the physical protection arrangements shall also immediately notify by telephone and telegraph, or teletype, the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A of the action being taken to trace the shipment.

44 FR 68184

(c) Each licensee who makes arrangements for physical protection of a shipment of formula quantities of strategic special nuclear material as required by §§ 73.25 and 73.26 shall immediately conduct a trace investigation of any shipment that is lost or unaccounted for after the estimated arrival time and file a report with the Commission as specified in § 73.71.

§ 73.37 Requirements for physical protection of irradiated reactor fuel in transit.

(a) *Performance objectives.* (1) Each licensee who transports, or delivers to a carrier for transport, in a single shipment, a quantity of irradiated reactor fuel in excess of 100 grams in net weight of irradiated fuel, exclusive of cladding or other structural or packaging material, which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding, shall establish and maintain, or make arrangements for, and assure the proper implementation of, a physical protection system for shipments of such material that will achieve the following objectives:

(i) Minimize the possibilities for radiological sabotage of spent fuel shipments, especially within heavily populated areas; and

(ii) Facilitate the location and recovery of spent fuel shipments that may have come under the control of unauthorized persons.

(2) To achieve these objectives, the physical protection shall:

(i) Provide for early detection and assessment of attempts to gain unauthorized access to, or control over, spent fuel shipments;

(ii) Provide for notification to the appropriate response forces of any spent fuel shipment sabotage attempts; and

45 FR 37399

(iii) Impede attempts at radiological sabotage or spent fuel shipments within heavily populated areas, or attempts to illicitly move such shipments into heavily populated areas, until response forces arrive.

(b) *General requirements.* To achieve the performance objectives of paragraph (a) of this section, a physical protection system established and maintained, or arranged for, by the licensee shall:

(1) Provide for notification of the Nuclear Regulatory Commission in advance of each shipment, in accordance with § 73.72 of this part.

(2) Include procedures for coping with circumstances that threaten deliberate damage to a spent fuel shipment and with other safeguards emergencies.

(3) Include instructions for each escort that, upon detection of the abnormal presence of unauthorized persons, vehicles or vessels in the vicinity of a spent fuel shipment, or upon detection of a deliberately induced situation that has the potential for damaging a spent fuel shipment, the escort will:

(i) Determine whether or not a threat exists;

(ii) Assess the extent of the threat, if any;

(iii) Inform local law enforcement agencies of the threat and request assistance; and

(iv) Implement the procedures developed in accordance with paragraph (b)(2) of this section.

(4) Include a communications center at a designated location, which will be staffed continuously by at least one individual who will monitor the progress of the spent fuel shipment and will notify the appropriate agencies in the event a safeguards emergency should arise.

(5) Provide for maintenance of a written log by the escorts and communications center personnel, for each spent fuel shipment, which will include information describing the shipment and significant events that occur during the shipment, and will be available for review by authorized NRC personnel for a period of at least 1 year following completion of the shipment.

(6) Provide that arrangements have been made with local law enforcement agencies along the routes of road and rail shipments, and at U.S. ports where vessels carrying spent fuel shipments are docked, for their response to an emergency or a call for assistance.

45 FR 37399

(7) Provide for advance approval by the NRC of the routes used for road and rail shipments of spent fuel, and of any U.S. ports where vessels carrying spent fuel shipments are scheduled to stop.

(8) Provide that shipments are planned so that scheduled intermediate stops are avoided to the extent practicable.

(9) Provide that at least one escort maintains visual surveillance of the shipment during periods when the shipment vehicle is stopped, or the shipment vessel is docked.

(10) Provide that escorts (other than members of local law enforcement agencies, or ship's officers serving as unarmed escorts) have successfully completed the training required by Appendix D of this part.

(11) Provide that shipment escorts make calls to the communications center at least every 2 hours to advise of the status of the shipment for road and rail shipments, and for sea shipments while shipment vessels are docked at U.S. ports.

(c) *Shipments by road.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is by road shall provide that:

(1) A transport vehicle within a heavily populated area is:

(i) Occupied by at least two individuals, one of whom serves as escort, and escorted by an armed member of the local law enforcement agency in a mobile unit of such agency; or

(ii) Led by a separate vehicle occupied by at least one armed escort, and trailed by a third vehicle occupied by at least one armed escort.

(2) A transport vehicle not within any heavily populated area is:

(i) Occupied by at least one driver and one other individual who serves as escort; or

(ii) Occupied by a driver and escorted by a separate vehicle occupied by at least two escorts; or

(iii) Escorted as set forth in paragraph (c)(1) of this section.

(3) Escorts have the capability of communicating with the communications center, local law enforcement agencies, and one another, through the use of:

(i) A citizens band (CB) radio available in the transport vehicle and in each escort vehicle;

(ii) A radiotelephone or other NRC-approved equivalent means of two-way voice communications available in the transport vehicle or in an escort vehicle committed to travel the entire route; and

(iii) Citizens band (CB) radio and normal local law enforcement agency radio communications in any local law enforcement agency mobile units used for escort purposes.

45 FR 37399

(4) The transport is equipped with NRC-approved features that permit immobilization of the cab or cargo-carrying portion of the vehicle.

(5) The transport vehicle driver has been familiarized with, and is capable of implementing, transport vehicle immobilization, communications, and other security procedures.

(d) *Shipments by rail.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is by rail shall provide that:

(1) A shipment car within a heavily populated area is accompanied by two armed escorts (who may be members of a local law enforcement agency), at least one of whom is stationed at a location on the train that will permit observation of the shipment car while in motion.

(2) A shipment car not within any heavily populated area is accompanied by at least one escort stationed at a location on the train that will permit observation of the shipment car while in motion.

(3) Escorts have the capability of communicating with the communications center and local law enforcement agencies through the use of a radiotelephone, or other NRC-approved equivalent means of two-way voice communications, which shall be available on the train.

(e) *Shipments by sea.* In addition to the provisions of paragraph (b), the physical protection system for any portion of a spent fuel shipment that is by sea shall provide that:

(1) A shipment vessel, while docked at a U.S. port within a heavily populated area, is protected by:

(i) Two armed escorts stationed on board the shipment vessel, or stationed on the dock at a location that will permit observation of the shipment vessel; or

(ii) A member of a local law enforcement agency, equipped with normal LLEA radio communications, who is stationed on board the shipment vessel, or on the dock at a location that will permit observation of the shipment vessel.

(2) A shipment vessel, while within U.S. territorial waters, or while docked at a U.S. port not within a heavily populated area, is accompanied by an escort, who may be an officer of the shipment vessel's crew, who will assure that the shipment is unloaded only as authorized by the licensee.

45 FR 37399

(3) Escorts have the capability of communicating with the communications center and local law enforcement agencies through the use of a radiotelephone, or other NRC-approved equivalent means of two-way voice communications.

(f) Prior to the transport of spent fuel within or through a state a licensee subject to this section shall notify the governor or the governor's designee. The licensee shall comply with the following criteria in regard to a notification: (1) The notification must be in writing and sent to the office of each appropriate governor or the governor's designee. A notification delivered by mail must be postmarked at least 7 days before transport of a shipment within or through the state. A notification delivered by messenger must reach the office of the governor or the governor's designee at least 4 days before transport of a shipment within or through the state. A list of the mailing addresses of governors and governors' designees is available upon request from the Director, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

47 FR 600

(2) The notification must include the following information:

(i) The name, address, and telephone number of the shipper, carrier and receiver.

(ii) A description of the shipment as specified by the Department of Transportation in 49 CFR § 172.202 and § 172.203(d).

(iii) A listing of the routes to be used within the state.

(iv) A statement that the information described below in § 73.37(f)(3) is required by NRC regulations to be protected in accordance with the requirements of § 73.21.

(3) The licensee shall provide the following information on a separate enclosure to the written notification:

(i) The estimated date and time of departure from the point of origin of the shipment.

(ii) The estimated date and time of entry into the governor's state.

(iii) For the case of a single shipment whose schedule is not related to the schedule of any subsequent shipment, a statement that schedule information must be protected in accordance with the provisions of § 73.21 until at least 10 days after the shipment has entered or originated within the state.

(iv) For the case of a shipment in a series of shipments whose schedules are related, a statement that schedule information must be protected in accordance with the provisions of § 73.21 until 10 days after the last shipment in the series has entered or originated within the state and an estimate of the date on which the last shipment in the series will enter or originate within the state.

47 FR 600

(4) A licensee shall notify by telephone or other means a responsible individual in the office of the governor or in the office of the governor's designee of any schedule change that differs by more than 6 hours from the schedule information previously furnished in accordance with § 73.37(f)(3), and shall inform that individual of the number of hours of advance or delay relative to the written schedule information previously furnished.

(g) State officials, state employees, and other individuals, whether or not licensees of the Commission, who receive schedule information of the kind specified in § 73.37(f)(3) shall protect that information against unauthorized disclosure as specified in § 73.21.

Physical Protection Requirements of Fixed Sites

44FR68184

§ 73.40 Physical protection: General requirements at fixed sites.

(a) Each licensee shall provide physical protection against radiological sabotage and against theft of special nuclear material at the fixed sites where licensed activities are conducted. Physical security systems shall be established and maintained by the licensee in accordance with security plans approved by the Nuclear Regulatory Commission.

(b) Each licensee subject to the requirements of §§ 73.20, 73.45, 73.46, 73.50, 73.55, or § 73.60 shall prepare a safeguards contingency plan in accordance with the criteria set forth in Appendix C to this part.

43 FR 11962

The safeguards contingency plan shall include plans for dealing with threats, thefts, and industrial sabotage relating to nuclear facilities licensed under Part 50 or to the possession of special nuclear material licensed under Part 70 of this chapter. By September 19, 1978, each licensee subject to the requirements of this paragraph, except for nuclear power plant licensees, from whom submittal is not required until March 23, 1979, shall submit to the Commission for approval the first four categories of information contained in the safeguards contingency plan. (The first four categories of information, as set forth in Appendix C to this part, are Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix. The fifth category of information, Procedures, does not have to be submitted for approval.)[1] The plan shall become effective and be followed (when appropriate) by the licensee, except for nuclear power plants, 30 days after approval by the Commission or 300 days after March 23, 1978,* whichever is later. For nuclear power plants, the plan shall become effective 30 days after approval by the Commission.

(c) Prior to the plan becoming effective, the licensee shall have:

(1) All safeguards capabilities specified in his safeguards contingency plan available and functional,

(2) Detailed Procedures developed according to Appendix C to this part available at the licensee's site, and

(3) All appropriate personnel trained to respond to safeguards incidents as outlined in the plan and specified in the detailed Procedures.

43 FR 11962

(d) The licensee shall provide for the implementation, revision, and maintenance of his safeguards contingency plan. To this end, the licensee shall provide for a review at least every twelve months of the safeguards contingency plan by individuals independent of both security program management and personnel who have direct responsibility for implementation of the security program. The review shall include a review and audit of safeguards contingency procedures and practices, an audit of the security system testing and maintenance program, and a test of the safeguards system along with commitments established for response by local law enforcement authorities. The results of the review and audit, along with recommendations for improvements, shall be documented, reported to the licensee's corporate and plant management, and kept available at the plant for inspection for a period of two years.

§ 73.45 Performance capabilities for fixed site physical protection systems.

(a) To meet the general performance requirements of § 73.20 a fixed site physical protection system shall include the performance capabilities described in paragraphs (b) through (g) of this section unless otherwise authorized by the Commission.

44FR68184

(b) Prevent unauthorized access of persons, vehicles and materials into material access areas and vital areas. To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized access or introduce unauthorized material across material access or vital area boundaries by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons and material to material access and vital area entry control points and to delay any unauthorized penetration attempts by persons or materials sufficient to assist detection and permit a response that will prevent the penetration; and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized penetration attempts by persons or materials at the time of the attempt so that the response can prevent the unauthorized access or penetration.

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[1] Licensees subject to § 73.55 may modify their physical security plans to incorporate contingency plan information specified in Appendix C to Part 73. A physical security plan that contains all the information required in both § 73.55 and Appendix C to Part 73 satisfies the requirement for a contingency plan.

*Amended 43 FR 14007.

READEX FICHE

(2) Detect attempts to gain unauthorized access or introduce unauthorized materials into material access areas or vital areas by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for both persons and materials; and

(ii) Entry controls and procedures to verify the identity of persons and materials and assess such identity against current authorization schedules and entry criteria before permitting entry and to initiate response measures to deny unauthorized entries.

(c) Permit only authorized activities and conditions within protected areas, material access areas, and vital areas. To achieve this capability the physical protection system shall:

(1) Detect unauthorized activities or conditions within protected areas, material access areas and vital areas using the following subsystems and subfunctions:

(i) Controls and procedures that establish current schedules of authorized activities and conditions in defined areas;

(ii) Boundaries to define areas within which the authorized activities and conditions are permitted; and

44FR68184

(iii) Detection and surveillance subsystems and procedures to discover and assess unauthorized activities and conditions and communicate them so that response can be such as to stop the activity or correct the conditions to satisfy the general performance objective and requirements of § 73.20(a).

(d) Permit only authorized placement and movement of strategic special nuclear material within material access areas. To achieve this capability the physical protection system shall:

(1) Detect unauthorized placement and movement of strategic special nuclear material within the material access area using the following subsystems and subfunctions:

(i) Controls and procedures to delineate authorized placement and control for strategic special nuclear material;

(ii) Controls and procedures to establish current authorized placement and movement of all strategic special nuclear material within material access areas;

(iii) Controls and procedures to maintain knowledge of the identity, quantity, placement, and movement of all strategic special nuclear material within material access areas; and

(iv) Detection and monitoring subsystems and procedures to discover and assess unauthorized placement and movement of strategic special nuclear material and communicate them so that response can be such as to return the strategic special nuclear material to authorized placement or control.

(e) Permit removal of only authorized and confirmed forms and amounts of strategic special nuclear material from material access areas. To achieve this capability the physical protection system shall:

(1) Detect attempts at unauthorized removal of strategic special nuclear material from material access areas by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons and materials exiting a material access area to exit control points and to delay any unauthorized strategic special nuclear material removal attempts sufficient to assist detection and assessment and permit a response that will prevent the removal; and satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Detection subsystems and procedures to detect, assess and communicate any attempts at unauthorized removal of strategic special nuclear material so that response to the attempt can be such as to prevent the removal and satisfy the general performance objective and requirements of § 73.20(a).

44FR68184

(2) Confirm the identity and quantity of strategic special nuclear material presented for removal from a material access area and detect attempts at unauthorized removal of strategic special nuclear material from material access areas by deceit using the following subsystems and subfunctions:

(i) Authorization controls and procedures to provide current schedules for authorized removal of strategic special nuclear material which specify the authorized properties and quantities of material to be removed, the persons authorized to remove the material, and the authorized time schedule;

(ii) Removal controls and procedures to identify and confirm the properties and quantities of material being removed and verify the identity of the persons making the removal and time of removal and assess these against the current authorized removal schedule before permitting removal; and

(iii) Communications subsystems and procedures to provide for notification of an attempted unauthorized or unconfirmed removal so that response can be such as to prevent the removal and satisfy the general performance objective and requirements of § 73.20(a).

(f) Provide for authorized access and assure detection of and response to unauthorized penetrations of the protected area to satisfy the general performance objective and requirements of § 73.20(a). To achieve this capability the physical protection system shall:

(1) Detect attempts to gain unauthorized access or introduce unauthorized persons, vehicles, or materials into the protected area by stealth or force using the following subsystems and subfunctions:

(i) Barriers to channel persons, vehicles, and materials to protected area entry control points; and to delay any unauthorized penetration attempts or the introduction of unauthorized vehicles or materials sufficient to assist detection and assessment and permit a response that will prevent the penetration or prevent such penetration and satisfy the general performance objective and requirements of § 73.20(a); and

(ii) Access detection subsystems and procedures to detect, assess and communicate any unauthorized access or penetrations or such attempts by persons, vehicles, or materials at the time of the act or the attempt so that the response can be such as to prevent the unauthorized access or penetration, and satisfy the general performance objective and requirements of § 73.20(a).

44FR68184

(2) Detect attempts to gain unauthorized access or introduce unauthorized persons, vehicles, or materials into the protected area by deceit using the following subsystems and subfunctions:

(i) Access authorization controls and procedures to provide current authorization schedules and entry criteria for persons, vehicles, and materials; and

(ii) Entry controls and procedures to verify the identity of persons, materials and vehicles and assess such identity against current authorization schedules before permitting entry and to initiate response measures to deny unauthorized access.

(g) Response. Each physical protection program shall provide a response capability to assure that the five capabilities described in paragraphs (b) through (f) of this section are achieved and that adversary forces will be engaged and impeded until offsite assistance forces arrive. To achieve this capability a licensee shall:

(1) Establish a security organization to:

(i) Provide trained and qualified personnel to carry out assigned duties and responsibilities; and

(ii) Provide for routine security operations and planned and predetermined response to emergencies and safeguards contingencies.

(2) Establish a predetermined plan to respond to safeguards contingency events.

(3) Provide equipment for the security organization and facility design features to:

(i) Provide for rapid assessment of safeguards contingencies;

(ii) Provide for response by assigned security organization personnel which is sufficiently rapid and effective to achieve the predetermined objective of the response; and

(iii) Provide protection for the assessment and response personnel so that they can complete their assigned duties.

(4) Provide communications networks to:

(i) Transmit rapid and accurate security information among onsite forces for routine security operation, assessment of a contingency, and response to a contingency; and

(ii) Transmit rapid and accurate detection and assessment information to offsite assistance forces.

(5) Assure that a single adversary action cannot destroy the capability of the security organization to notify offsite response forces of the need for assistance.

§ 73.46 Fixed site physical protection systems, subsystems, components, and procedures.

44FR68184

(a) A licensee physical protection system established pursuant to the general performance objective and requirements of § 73.20(a) and the performance capability requirements of § 73.45 shall include, but are not necessarily limited to, the measures specified in paragraphs (b) through (h) of this section. The Commission may require, depending on individual facility and site conditions, alternate or additional measures deemed necessary to meet the general performance objective and requirements of § 73.20. The Commission also may authorize protection measures other than those required by this section if, in its opinion, the overall level of performance meets the general performance objective and requirements of § 73.20 and the performance capability requirements of § 73.45.

(b) Security Organization.

(1) The licensee shall establish a security organization, including guards. If a contract guard force is utilized for site security, the licensee's written agreement with the contractor will clearly show that (i) the licensee is responsible to the Commission for maintaining safeguards in accordance with Commission regulations and the licensee's security plan, (ii) the NRC may inspect, copy, and take away copies of all reports and documents required to be kept by Commission regulations, orders, or applicable license conditions whether such reports and documents are kept by the licensee or the contractor, (iii) the requirement, in § 73.46(b)(4) of this section that the licensee demonstrate the ability of physical security personnel to perform their assigned duties and responsibilities, include demonstration of the ability of the contractor's physical security personnel to perform their assigned duties and responsibilities in carrying out the provisions of the Security Plan and these regulations, and (iv) the contractor will not assign any personnel to the site who have not first been made aware of these responsibilities.

(2) The licensee shall have onsite at all times at least one full time member of the security organization with authority to direct the physical protection activities of the security organization.

(3) The licensee shall have a management system to provide for the development, revision, implementation, and enforcement of security procedures. The system shall include:

44FR68184

(i) Written security procedures which document the structure of the security organization and which detail the duties of guards, watchmen and other individuals responsible for security; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the security function.

(4) The licensee shall not permit an individual to act as a guard, watchman, armed response person, or other member of the security organization unless such individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with Appendix B of this part "General Criteria for Security Personnel." Upon the request of an authorized representative of the Commission the licensee shall demonstrate the ability of the physical security personnel, whether licensee or contractor employees, to carry out their assigned duties and responsibilities. Each guard, watchman, armed response person, or other member of the security organization, whether a licensee or contractor employee, shall requalify in accordance with Appendix B of this part at least every 12 months. Such requalification shall be documented.

(5) Within any given period of time, a member of the security organization may not be assigned to, or have direct operational control over, more than one of the redundant elements of a physical protection subsystem if such assignment or control could result in the loss of effectiveness of the subsystem.

(6) Guard and armed response force armament maintained on site shall include handguns, shotguns, and semiautomatic rifles, as described in Appendix B to this part.

(c) Physical Barrier Subsystems

(1) Vital equipment shall be located only within a vital area and strategic special nuclear material shall be stored or processed only in a material access area. Both vital areas and material access areas shall be located within a protected area so that access to vital equipment and to strategic special nuclear material requires passage through at least two physical barriers. More than one vital area or material access area may be located within a single protected area.

(2) The physical barriers at the perimeter of the protected area shall be separated from any other barrier designated as a physical barrier for a vital area or material access area within the protected area.

44FR68184

(3) Isolation zones shall be maintained in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and shall be large enough to permit observation of the activities of people on either side of that barrier in the event of its penetration. If parking facilities are provided for employees or visitors, they shall be located outside the isolation zone and exterior to the protected area.

(4) Isolation zones and all exterior areas within the protected area shall be provided with illumination sufficient for the monitoring and observation requirements of paragraphs (c)(3), (e)(8), (h)(4) and (h)(6) of this section, but not less than 0.2 footcandle measured horizontally at ground level.

(5) Strategic special nuclear material, other than alloys, fuel elements or fuel assemblies, shall:

(i) Be stored in a vault when not undergoing processing if the material can be used directly in the manufacture of a nuclear explosive device. Vaults used to protect such material shall be capable of preventing entry to stored SSNM by a single action in a forced entry attempt, except as such single action would both destroy the barrier and render contained SSNM incapable of being removed, and shall provide sufficient delay to prevent removal of stored SSNM prior to arrival of response personnel capable of neutralizing the design basis threat stated in § 73.1.

(ii) Be stored in tamper-indicating containers;

(iii) Be processed only in material access areas constructed with barriers that provide significant delay to penetration; and

(iv) be kept in locked compartments or locked process equipment while undergoing processing except when personally attended.

(6) Enriched uranium scrap (enriched to 20% or greater) in the form of small pieces, cuttings, chips, solutions or in

other forms which result from a manufacturing process, contained in 30 gallon or larger containers with a uranium-235 content of less than 0.25 grams per liter, may be stored within a locked and separately fenced area within a larger protected area provided that the storage area fence is no closer than 25 feet to the perimeter of the protected area. The storage area when unoccupied shall be protected by a guard or watchman who shall patrol at intervals not exceeding 4 hours, or by intrusion alarms.

(d) Access Control Subsystems and Procedures

(1) A numbered picture badge identification subsystem shall be used for all individuals who are authorized access to protected areas without escort. An individual not employed by the licensee but who requires frequent and extended access to protected, material access, or vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area and returns the badge upon exit from the protected area, and that the badge indicates, (i) Non-employee—no escort required; (ii) areas to which access is authorized and (iii) the period for which access has been authorized. Badges shall be displayed by all individuals while inside the protected areas.

44FR68184

(2) Unescorted access to vital areas, material access areas and controlled access areas shall be limited to individuals who are authorized access to the material and equipment in such areas, and who require such access to perform their duties. Access to material access areas shall include at least two individuals. Authorization for such individuals shall be indicated by the issuance of specially coded numbered badges indicating vital areas, material access areas, and controlled access areas to which access is authorized. No activities other than those which require access to strategic special nuclear material or to equipment used in the processing, use, or storage of strategic special nuclear material, or necessary maintenance, shall be permitted within a material access area.

(3) The licensee shall establish and follow procedures that will permit access control personnel to identify those vehicles that are authorized and those materials that are not authorized entry to protected, material access, and vital areas.

(4) The licensee shall control all points of personnel and vehicle access into a protected area. Identification and search of all individuals for firearms, explosives, and incendiary devices, shall be made and authorization shall be checked at such points. United States Department of Energy couriers engaged in the transport of special nuclear material need not be searched. Licensee employees having an NRC or United States Department of Energy access authorization shall be searched at least on a random basis. The individual responsible for the last access control function (controlling admission to the protected area) shall be isolated within a structure, with bullet-resisting walls, doors, ceiling, floor, and windows.

(5) At the point of personnel and vehicle access into a protected area, all hand-carried packages shall be searched for firearms, explosives, and incendiary devices except those packages carried by persons having an NRC or DOE access authorization which shall be searched on a random basis when the person carrying them is selected for search.

(6) All packages and material for delivery into the protected area shall be checked for proper identification and authorization and searched on a random basis for firearms, explosives, and incendiary devices prior to admittance into the protected area, except those Commission approved delivery and inspection activities specifically designated by the licensee to be carried out within material access, vital, or protected areas for reasons of safety, security or operational necessity.

44FR68184

(7) All vehicles, except United States Department of Energy vehicles engaged in transporting special nuclear material and emergency vehicles under emergency conditions, shall be searched for firearms, explosives, and incendiary devices prior to entry into the protected area. Vehicle areas to be searched shall include the cab, engine compartment, undercarriage, and cargo area.

(8) All vehicles, except designated licensee vehicles, requiring entry into the protected area shall be escorted by a member of the security organization while within the protected area, and to the extent practicable shall be off-loaded in an area that is not adjacent to a vital area. Designated licensee vehicles shall be limited in their use to onsite plant functions and shall remain in the protected area except for operational, maintenance, security and emergency purposes. The licensee shall exercise positive control over all such designated vehicles to assure that they are used only by authorized persons and for authorized purposes.

(9) The licensee shall control all points of personnel and vehicle access to material access areas, vital areas and controlled access areas. Identification of personnel and vehicles shall be made and authorization checked at such points. Prior to entry into a material access area, packages shall be searched for firearms, explosives, and incendiary devices. All vehicles, materials and packages, including trash, wastes, tools and equipment exiting from a material access area shall be searched for concealed strategic special nuclear material by a team of at least two individuals who are not authorized access to that material access area. Each individual exiting a material access area shall undergo at least two separate searches for concealed strategic special nuclear material. For individuals exiting an area that contains only alloyed or encapsulated strategic special nuclear material, the second search may be conducted in a random manner.

(10) Before exiting from a material access area, containers of contaminated wastes shall be drum scanned and tamper sealed by at least two individuals, working and recording as a team, who do not have access to material processing and storage areas.

(11) Strategic special nuclear material being prepared for shipment offsite, including product, samples and scrap, shall be packed and placed in sealed containers in the presence of at least two individuals working as a team who shall verify and certify the content of each shipping container through the witnessing of gross weight measurements and nondestructive assay, and through the inspection of tamper seal integrity and associated seal records.

44FR68184

(12) Areas used for preparing strategic special nuclear material for shipment and areas used for packaging and screening trash and wastes shall be controlled access areas and shall be separated from processing and storage areas.

(13) Individuals not permitted by the licensee to enter protected areas without escort shall be escorted by a watchman, or other individual designated by the licensee, while in a protected area and shall be badged to indicate that an escort is required. In addition, the individual shall be required to register his name, date, time, purpose of visit and employment affiliation, citizenship, and name of the individual to be visited.

(14) All keys, locks, combinations and related equipment used to control access to protected, material access, vital, and controlled access areas shall be controlled to reduce the probability of compromise. Whenever there is evidence that a key, lock, combination, or related equipment may have been compromised it shall be changed. Upon termination of employment of any employee, keys, locks, combinations, and related equipment to which that employee had access, shall be changed.

(e) Detection, Surveillance and Alarm Subsystems and Procedures

(1) The licensee shall provide an intrusion alarm subsystem with a capability to detect penetration through the isolation zone and to permit response action.

(2) All emergency exits in each protected, material access, and vital area shall be locked to prevent entry from the outside and alarmed to provide local visible and audible alarm annunciation.

(3) All unoccupied vital areas and material access areas shall be locked and protected by an intrusion alarm subsystem which will alarm upon the entry of a person anywhere into the area, upon exit from the area, and upon movement of an individual within the area, except that for process material access areas only the location of the strategic special nuclear material within the area is required to be so alarmed. Vaults and process areas that contain strategic special nuclear material that has not been alloyed or encapsulated shall also be under the surveillance of closed circuit television that is monitored in both alarm stations. Additionally, means shall be employed which require that an individual other than an alarm station operator be present at or have knowledge of access to such unoccupied vaults or process areas.

44 FR 68184

(4) All manned access control points in the protected area barrier, all security patrols and guard stations within the protected area, and both alarm stations shall be provided with duress alarms.

(5) All alarms required pursuant to this section shall annunciate in a continuously manned central alarm station located within the protected area and in at least one other independent continuously manned onsite station not necessarily within the protected area, so that a single act cannot remove the capability of calling for assistance or responding to an alarm. The alarm stations shall be controlled access areas and their walls, doors, ceiling, floor, and windows shall be bullet-resisting. The central alarm station shall be located within a building so that the interior of the central alarm station is not visible from the perimeter of the protected area. This station may not contain any operational activities that would interfere with the execution of the alarm response function.

(6) All alarms required by this section shall remain operable from independent power sources in the event of the loss of normal power. Switchover to standby power shall be automatic and shall not cause false alarms on annunciator modules.

(7) All alarm devices including transmission lines to annunciators shall be tamper indicating and self-checking e.g., an automatic indication shall be provided when a failure of the alarm system or a component occurs, when there is an attempt to compromise the system, or when the system is on standby power. The annunciation of an alarm at the alarm stations shall indicate the type of alarm (e.g., intrusion alarm, emergency exit alarm, etc.) and location. The status of all alarms and alarm zones shall be indicated in the alarm stations.

(8) All exterior areas within the protected area shall be monitored or periodically checked to detect the presence of unauthorized persons, vehicles, materials, or unauthorized activities.

(9) Methods to observe individuals within material access areas to assure that strategic special nuclear material is not moved to unauthorized locations or in an unauthorized manner shall be provided and used on a continuing basis.

(f) Communication Subsystems

(1) Each guard, watchman, or armed response individual on duty shall be capable of maintaining continuous communication with an individual in each continuously manned alarm station required by paragraph (e)(5) of this section, who shall be capable of calling for assistance from other guards, watchmen, and armed response personnel and from law enforcement authorities.

44 FR 68184

(2) Each alarm station required by paragraph (e)(5) of this section shall have both conventional telephone service and radio or microwave transmitted two-way voice communication, either directly or through an intermediary, for the capability of communication with the law enforcement authorities.

(3) Non-portable communications equipment controlled by the licensee and required by this section shall remain operable from independent power sources in the event of the loss of normal power.

(g) Test and Maintenance Programs

The licensee shall have a test and maintenance program for intrusion alarms, emergency exit alarms, communications equipment, physical barriers, and other physical protection related devices and equipment used pursuant to this section that shall provide for the following:

(1) Tests and inspections during the installation and construction of physical protection related subsystems and components to assure that they comply with their respective design criteria and performance specifications.

(2) Preoperational tests and inspections of physical protection related subsystems and components to demonstrate their effectiveness and availability with respect to their respective design criteria and performance specifications.

(3) Operational tests and inspections of physical protection related subsystems and components to assure their maintenance in an operable and effective condition, including:

(i) Testing of each intrusion alarm at the beginning and end of any period that it is used. If the period of continuous use is longer than seven days, the intrusion alarm shall also be tested at least once every seven days.

(ii) Testing of communications equipment required for communications onsite, including duress alarms, for performance not less frequently than once at the beginning of each security personnel work shift. Communications equipment required for communications offsite shall be tested for performance not less than once a day.

(4) Preventive maintenance programs shall be established for physical protection related subsystems and components to assure their continued maintenance in an operable and effective condition.

44 FR 68184

(5) All physical protection related subsystems and components shall be maintained in operable condition. The licensee shall develop and employ corrective action procedures and compensatory measures to assure that the effectiveness of the physical protection system is not reduced by failure or other contingencies affecting the operation of the security related equipment or structures. Repairs and maintenance shall be performed by at least two individuals working as a team who have been trained in the operation and performance of the equipment. The security organization shall be notified before and after service is performed and shall conduct performance verification tests after the service has been completed.

(6) The security program shall be reviewed at least every 12 months by individuals independent of both security management and security supervision. The review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, and audit of the physical protection system testing and maintenance program, and an audit of commitments established for response by local law enforcement authorities. The results of the review, audit, and evaluation along with recommendations, corrections and improvements, if any, shall be documented, reported to the licensee's plant management, and to corporate management at least one level higher than that having responsibility for the day to day plant operations. The reports shall be kept available at the plant for inspection for a period of five years.

(h) Contingency and Response Plans and Procedures

(1) The licensee shall have a safeguards contingency plan for dealing with threats, thefts, and radiological sabotage related to the strategic special nuclear material and nuclear facilities subject to the provisions of this section. Safeguards contingency plans shall be in accordance with the criteria in Appendix C to this part, "Licensee Safeguards Contingency Plans." Contingency plans shall include, but not be limited to, the response requirements in paragraphs (h)(2) through (h)(5) of this section.

(2) The licensee shall establish and document response arrangements that have been made with local law enforcement authorities.

(3) A minimum of five (5) guards shall be available at the facility to fulfill assessment and response requirements. In addition a force of guards or armed response personnel also shall be available to provide assistance as necessary. The size and availability of the additional force shall be determined on the basis of site-specific considerations that could affect the ability of the total onsite response force to engage and impede the adversary force until offsite assistance arrives. The reason for determining the total number and availability of onsite armed response personnel shall be included in the physical protection plans submitted to the Commission for approval.

44FR68184

(4) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, a material access area, or a vital area, or upon evidence or indication of intrusion into a protected area, a material access area, or a vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any,

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Requiring responding guards or other armed response personnel to interpose themselves between vital areas and material access areas and any adversary attempting entry for purposes of radiological sabotage or theft of strategic special nuclear material and to intercept any person exiting with special nuclear material, and

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(5) The licensee shall instruct every guard and all armed response personnel to prevent or impede acts of radiological sabotage or theft of strategic special nuclear material by using force sufficient to counter the force directed at him including the use of deadly force when the guard or other armed response person has a reasonable belief that it is necessary in self-defense or in the defense of others.

(6) To facilitate initial response to detection of penetration of the protected area and assessment of the existence of a threat, a capability of observing the isolation zones and the physical barrier at the perimeter of the protected area shall be provided, preferably by means of closed circuit television or by other suitable means which limit exposure of responding personnel to possible attack.

44FR68184

(7) Alarms occurring within unoccupied vaults and unoccupied material access areas containing unalloyed or unencapsulated strategic special nuclear material shall be assessed by at least two security personnel using closed circuit television (CCTV) or other remote means.

(8) Alarms occurring within unoccupied material access areas that contain only alloyed or encapsulated strategic special nuclear material shall be assessed as in paragraph (h)(7) of this section or by at least two security personnel who shall undergo a search before exiting the material access area.

§ 73.50 Requirements for physical protection of licensed activities.

Each licensee who possesses, uses, or stores formula quantities of strategic special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding other than at a nuclear reactor facility licensed pursuant to Part 50 of this chapter shall comply with the following:

44FR68184

(a) *Physical security organization.* (1) The licensee shall establish a security organization, including guards, to protect his facility against industrial sabotage and the special nuclear material in his possession against theft.

(2) At least one supervisor of the security organization shall be on site at all times.

(3) The licensee shall establish, maintain and follow written security procedures which document the structure of the security organization and which detail the duties of guards, watchmen, and other individuals responsible for security.

43 FR 37421

(4) The licensee shall not permit an individual to act as a guard, watchman, armed response person, or other member of the security organization unless such individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with Appendix B, "General Criteria for Security Personnel," of this part. Upon the request of an authorized representative of the Commission the licensee shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Each guard, watchman, armed response person, and other member of the security organization shall requalify in accordance with appendix B of this part at least every 12 months. Such requalification shall be documented.

(b) *Physical barriers.* (1) The licensee shall locate vital equipment only within a vital area, which, in turn, shall be located within a protected area such that access to vital equipment requires passage through at least two physical barriers. More than one vital area may be within a single protected area.

(2) The licensee shall locate material access areas only within protected areas such that access to the material access area requires passage through at least two physical barriers. More than one material access area may be within a single protected area.

(3) The physical barrier at the perimeter of the protected area shall be separated from any other barrier designated as a physical barrier within the protected area, and the intervening space monitored or periodically checked to detect the presence of persons or vehicles so that the facility security organization can respond to suspicious activity or to the breaching of any physical barrier.

(4) An isolation zone shall be maintained around the physical barrier at the perimeter of the protected area and any part of a building used as part of that physical barrier. The isolation zone shall be monitored to detect the presence of individuals or vehicles within the zone so as to allow response by armed members of the licensee security organization to be initiated at the time of penetration of the protected area. Parking facilities, both for employees and visitors, shall be located outside the isolation zone.

(5) Isolation zones and clear areas between barriers shall be provided with illumination sufficient for the monitoring required by paragraph (b) (3) and (4) of this section, but not less than 0.2 foot candles.

(c) *Access requirements.* The licensee shall control all points of personnel and vehicle access into a protected area, including shipping or receiving areas, and into each vital area. Identification of personnel and vehicles shall be made and authorization shall be checked at such points.

(1) At the point of personnel and vehicle access into a protected area, all individuals, except employees who possess an NRC or United States Department of Energy access authorization and all hand-carried packages shall be searched for devices such as firearms, explosives, and incendiary devices, or other items which could be used for industrial sabotage. The search shall be conducted either by a physical search or by the use of equipment capable of detecting such devices. Employees who possess an NRC or United States Department of Energy access authorization shall be searched at random intervals. Subsequent to search, drivers of delivery and service vehicles shall be escorted at all times while within the protected area.

(2) All packages being delivered into the protected area shall be checked for proper identification and authorization. Packages other than hand-carried packages shall be searched at random intervals.

(3) A picture badge identification system shall be used for all individuals who are authorized access to protected areas without escort.

38 FR 35430

(4) Access to vital areas and material access areas shall be limited to individuals who are authorized access to vital equipment or special nuclear material and who require such access to perform their duties. Authorization for such individuals shall be provided by the issuance of specially coded numbered badges indicating vital areas and material access areas to which access is authorized. Unoccupied vital areas and material access areas shall be protected by an active intrusion alarm system.

(5) Individuals not employed by the licensee shall be escorted by a watchman, or other individual designated by the licensee, while in a protected area and shall be badged to indicate that an escort is required. In addition, each individual not employed by the licensee shall be required to register his name, date, time, purpose of visit, employment affiliation, citizenship, name and badge number of the escort, and name of the individual to be visited. Except for a driver of a delivery or service vehicle, an individual not employed by the licensee who requires frequent and extended access to a protected area or a vital area need not be escorted provided such individual is provided with a picture badge, which he must receive upon entrance into the protected area and which he must return each time he leaves the protected area, which indicates (i) nonemployee-no escort required, (ii) areas to which access is authorized, and (iii) the period for which access has been authorized.

(6) No vehicles used primarily for the conveyance of individuals shall be permitted within a protected area except under emergency conditions.

(7) Keys, locks, combinations, and related equipment shall be controlled to minimize the possibility of compromise and promptly changed whenever there is evidence that they have been compromised. Upon termination of employment of any employee, keys, locks, combinations, and related equipment to which that employee had access shall be changed.

(d) *Detection aids.* (1) All alarms required pursuant to this part shall annunciate in a continuously manned central alarm station located within the protected area and in at least one other continuously manned station, not necessarily within the protected area, such that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm. All alarms shall be self-checking and tamper indicating. The annunication of an alarm at the onsite central alarm station shall indicate the type of alarm (e.g., intrusion alarm, emergency exit alarm, etc.) and location. All intrusion alarms, emergency exit alarms, alarm systems, and line supervisory systems shall at minimum meet the performance and reliability levels indicated by GSA Interim Federal Specification W–A–00450 B (GSA–FSS).

(2) All emergency exits in each protected area and each vital area shall be alarmed.

(e) *Communication requirements.* (1) Each guard or watchman on duty shall be capable of maintaining continuous communication with an individual in a continuously manned central alarm station within the protected area, who shall be capable of calling for assistance from other guards and watchmen and from local law enforcement authorities.

(2) The alarm stations required by paragraph (d)(1) of this section shall have conventional telephone service for communication with the law enforcement authorities as described in paragraph (e)(1) of this section.

(3) To provide the capability of continuous communication, two-way radio voice communication shall be established in addition to conventional telephone service between local law enforcement authorities and the facility and shall terminate at the facility in a continuously manned central alarm station within the protected area.

(4) All communications equipment, including offsite equipment, shall remain operable from independent power sources in the event of loss of primary power.

(f) *Testing and maintenance.* Each licensee shall test and maintain intrusion alarms, emergency alarms, communications equipment, physical barriers, and other security related devices or equipment utilized pursuant to this section as follows:

(1) All alarms, communications equipment, physical barriers, and other security related devices or equipment shall be maintained in operable and effective condition.

(2) Each intrusion alarm shall be functionally tested for operability and required performance at the beginning and end of each interval during which it is used for security, but not less frequently than once every seven (7) days.

(3) Communications equipment shall be tested for operability and performance not less frequently than once at the beginning of each security personnel work shift.

38 FR 35430

(g) *Response requirement.* (1) The licensee shall have a safeguards contingency plan for dealing with threats, thefts, and industrial sabotage related to the special nuclear material and nuclear facilities subject to the provisions of this section. Safeguards contingency plans shall be in accordance with the criteria in Appendix C of this part, "Licensee Safeguards Contingency Plans."

(2) The licensee shall establish and document liaison with law enforcement authorities.

43 FR 11962

(3) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, a material access area, or a vital area; or upon evidence or indication of intrusion into a protected area, material access area, or vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any,

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Requiring responding guards to interpose themselves between material access areas and vital areas and any adversary attempting entry for the purpose of theft of special nuclear material or industrial sabotage and to intercept any person exiting with special nuclear material, and,

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(4) The licensee shall instruct every guard to prevent or impede attempted acts of theft or industrial sabotage by using force sufficient to counter the force directed at him including deadly force when the guard has a reasonable belief it is necessary in self-defense or in the defense of others.

42 FR 64103

(h) By (120 days after the rule becomes effective) each licensee shall submit a training and qualifications plan outlining the processes by which guards, watchmen, armed response persons and other members of the security organization will be selected, trained, equipped, tested, and qualified to assure these individuals meet the requirements of paragraph (a)(4) of this section. The training and qualifications plan shall include a schedule to show how all security personnel will be qualified by (within 2 years after the rule becomes effective) or within two years after the submitted plan is approved, whichever is later. The training and qualifications plan shall be followed by the licensee after (180 days after the rule becomes effective) or 60 days after the submitted plan is approved by the NRC, whichever is later.

43 FR 37421

§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.

Each licensee who is authorized on February 24, 1977, to operate a nuclear power reactor pursuant to Part 50 of this Chapter shall comply with the requirements of paragraphs (b), (d), (f), (g), and (h) of this section, except for any requirement involving construction and installation of equipment not already in place expressed in paragraphs (d)(1), (d)(7), (d)(8), (f)(3) and (h)(4), by May 25, 1977. The licensee shall submit by May 25, 1977, an amended physical security plan describing how the licensee will comply with all of the requirements of this section including schedules of implementation. The licensee shall implement his plan and comply with all of the provisions of this section as soon as practicable after NRR approval of his plan but no later than February 23, 1979. Each applicant for a license to operate a nuclear power reactor pursuant to Part 50 of this chapter whose application was submitted prior to February 24, 1977 shall submit by May 25, 1977, an amended physical security plan describing how the applicant plans to comply with the requirements of this section including schedules of implementation. If such applicant receives an operating license after February 24, 1977 he shall comply with the requirements of paragraphs (b), (d), (f), (g), and (h) of this section, except for construction and installation not already in place pursuant to paragraphs (d)(1), (d)(7), (d)(8), (f)(3) and (h)(4) of this section by May 25, 1977, or on the date of receipt of the operating license, whichever is later, and implement his plan and comply with all of the requirements of this section by February 23, 1979 or on the date of receipt of the operating license whichever is later. Each applicant for a license to operate a nuclear power reactor pursuant to Part 50 of this Chapter whose application is submitted after February 24, 1977, shall include in the physical security plan required by § 50.34(c) the information identified in paragraphs (a) through (h) of this section and if such applicant receives an operating license, shall comply with the provisions of this section on receipt of the operating license. Except for individuals for whom the licensee has a well-grounded suspicion that such individuals are carrying firearms, explosives, or incendiary devices, a licensee need not implement the physical search requirement of paragraph (d)(1) of this section for individuals who are regular employees of the licensee at the site at which the licensee is authorized to operate a nuclear power reactor pursuant to Part 50 of this Chapter until 60 days following Commission approval of security plan amendments which define how the final search requirements of paragraph (d)(1) of this section will be met. Until that date the Commission has determined that the search requirement of paragraph (d)(1) of this section, implemented using only equipment capable of detecting firearms, explosives and incendiary devices, satisfies the performance requirements of this section as they apply to searches of regular employees of the licensee at the site entering the protected area of the nuclear power reactor.

45 FR 79410

(a) General Performance Objective and Requirements

The licensee shall establish and maintain an onsite physical protection system and security organization which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security, and do not constitute an unreasonable risk to the public health and safety. The physical protection system shall be designed to protect against the design basis threat of radiological sabotage as stated in § 73.1(a). To achieve this general performance objective, the onsite physical protection system and security organization shall include, but not necessarily be limited to, the capabilities to meet the specific requirements contained in paragraphs (b) through (h) of this section. The Commission may authorize an applicant or licensee to provide measures for protection against radiological sabotage other than those required by this section if the applicant or licensee demonstrates that the measures have the same high assurance objective as specified in this paragraph and that the overall level of system performance provides protection against radiological sabotage equivalent to that which would be provided by paragraphs (b)–(h) of this section and meets the general performance requirements of this section. Specifically, in the special cases of licensed operating reactors with adjacent reactor powerplants under construction, the licensee shall provide and maintain a level of physical protection of the operating reactor against radiological sabotage equivalent to the requirements of this section.

44 FR 68184

(b) Physical Security Organization.

(1) The licensee shall establish a security organization, including guards, to protect his facility against radiological sabotage. If a contract guard force is utilized for site security, the licensee's written agreement with the contractor will clearly show that (i) the licensee is responsible to the Commission for maintaining safeguards in accordance with Commission regulations and the licensee's security plan, (ii) the NRC may inspect, copy, and take away copies of all reports and documents required to be kept by Commission regulations, orders, or applicable license conditions whether such reports and documents are kept by the licensee or the contractor, (iii) the requirement in § 73.55(b)(4) of this section that the licensee demonstrate the ability of physical security personnel to perform their assigned duties and

responsibilities, includes demonstration of the ability of the contractor's physical security personnel to perform their assigned duties and responsibilities in carrying out the provisions of the Security Plan and these regulations, and (iv) the contractor will not assign any personnel to the site who have not first been made aware of these responsibilities.

(2) At least one full time member of the security organization who has the authority to direct the physical protection activities of the security organization shall be onsite at all times.

(3) The licensee shall have a management system to provide for the development, revision, implementation, and enforcement of security procedures. The system shall include:

(i) Written security procedures which document the structure of the security organization and which detail the duties of guards, watchmen and other individuals responsible for security; and

(ii) Provision for written approval of such procedures and any revisions thereto by the individual with overall responsibility for the security functions.

(4) The licensee shall not permit an individual to act as a guard watchman, armed response person, or other member of the security organization unless such individual has been trained, equipped, and qualified to perform each assigned security job duty in accordance with Appendix B, "General Criteria for Security Personnel," of this part. Upon the request of an authorized representative of the Commission the licensee shall demonstrate the ability of the physical security personnel to carry out their assigned duties and responsibilities. Each guard, watchman, armed response person, and other member of the security organization shall requalify in accordance with appendix B of this part at least every 12 months. Such requalification shall be documented. By August 20, 1979 each licensee shall submit a training and qualifications plan outlining the processes by which guards, watchmen, armed response persons, and other members of the security organization will be selected, trained, equipped, tested, and qualified to assure these individuals meet the requirements of this paragraph. The training and qualifications plan shall include a schedule to show how all security personnel will be qualified by October 23, 1980 or within 2 years after the submitted plan is approved, whichever is later. The training and qualifications plan shall be followed by the licensee after March 6, 1980 or 60 days after the submitted plan is approved by the NRC, whichever is later.

45 FR 83195

(c) *Physical barriers.* (1) The licensee shall locate vital equipment only within a vital area, which in turn, shall be located within a protected area such that access to vital equipment requires passage through at least two physical barriers of sufficient strength to meet the performance requirements of paragraph (a) of this section. More than one vital area may be located within a single protected area.

(2) The physical barriers at the perimeter of the protected area shall be separated from any other barrier designated as a physical barrier for a vital area within the protected area.

(3) Isolation zones shall be maintained in outdoor areas adjacent to the physical barrier at the perimeter of the protected area and shall be of sufficient size to permit observation of the activities of people on either side of that barrier in the event of its penetration. If parking facilities are provided for employees or visitors, they shall be located outside the isolation zone and exterior to the protected area barrier.

42 FR 10836

(4) Detection of penetration or attempted penetration of the protected area or the isolation zone adjacent to the protected area barrier shall assure that adequate response by the security organization can be initiated. All exterior areas within the protected area shall be periodically checked to detect the presence of unauthorized persons, vehicles, or materials.

(5) Isolation zones and all exterior areas within the protected area shall be provided with illumination sufficient for the monitoring and observation requirements of paragraphs (c)(3), (c)(4), and (h)(4) of this section, but not less than 0.2 footcandle measured horizontally at ground level.

(6) The walls, doors, ceiling, floor, and any windows in the walls and in the doors of the reactor control room shall be bullet-resisting.

(d) *Access requirements.* (1) The licensee shall control all points of personnel and vehicle access into a protected area. Identification and search of all individuals shall be made and authorization shall be checked at such points. The search function for detection of firearms, explosives, and incendiary devices shall be conducted either by a physical search or by use of equipment capable of detecting such devices. The individual responsible for the last access control function (controlling admission to the protected area) shall be isolated within a bullet-resisting structure as described in paragraph (c)(6) of this section to assure their ability to respond or to summon assistance.

(2) At the point of personnel and vehicle access into a protected area, all hand-carried packages shall be searched for devices such as firearms, explosives, and incendiary devices, or other items which could be used for industrial sabotage.

(3) All packages and material for delivery into the protected area shall be checked for proper identification and authorization and searched for devices such as firearms, explosives and incendiary devices or other items which could be used for industrial sabotage, prior to admittance into the protected area, except those Commission approved delivery and inspection activities specifically designated by the licensee to be carried out within vital or protected areas for reasons of safety, security or operational necessity.

42 FR 10836

(4) All vehicles, except under emergency conditions, shall be searched for items which could be used for sabotage purposes prior to entry into the protected area. Vehicle areas to be searched shall include the cab, engine compartment, undercarriage, and cargo area. All vehicles, except designated licensee vehicles, requiring entry into the protected area shall be escorted by a member of the security organization while within the protected area and, to the extent practicable, shall be off loaded in the protected area at a specific designated materials receiving area that is not adjacent to a vital area. Designated licensee vehicles shall be limited in their use to onsite plant functions and shall remain in the protected area except for operational, maintenance, repair security and emergency purposes. The licensee shall exercise positive control over all such designated vehicles to assure that they are used only by authorized persons and for authorized purposes.

(5) A numbered picture badge identification system shall be used for all individuals who are authorized access to protected areas without escort. An individual not employed by the licensee but who requires frequent and extended access to protected and vital areas may be authorized access to such areas without escort provided that he receives a picture badge upon entrance into the protected area which must be returned upon exit from the protected area and which indicates (i) Non-employee-no escort required; (ii) areas to which access is authorized and (iii) the period for which access has been authorized. Badges shall be displayed by all individuals while inside the protected area.

(6) Individuals not authorized by the licensee to enter protected areas without escort shall be escorted by a watchman, or other individual designated by the licensee, while in a protected area and shall be badged to indicate that an escort is required. In addition, each such individual shall be required to register his name, date, time, purpose of visit and employment affiliation, citizenship, and name of the individual to be visited.

(7) The licensee shall positively control all points of personnel and vehicle access into vital areas. Access to vital areas shall be limited to individuals who are authorized access to vital equipment and who require such access to perform their duties. Authorization for such individuals shall be provided by the issuance of specially coded numbered badges indicating vital areas to which access is authorized. Access to vital areas for the purpose of general familiarization and other non-work-related activities shall not be authorized except for good cause shown to the licensee. Unoccupied vital areas shall be locked and protected by an active intrusion alarm system.

(8) Access to the reactor containment shall be through doors or hatches which shall be alarmed and have locks of substantial construction to offer penetration resistance and impede both surreptitious and forced entry. Any time frequent access is permitted to containment such as during refueling or major maintenance, positive access control to assure that only authorized personnel and materials are permitted into the containment shall be exercised by the licensee, with a guard or watchman.

42 FR 10836

(9) All keys, locks, combinations, and related equipment used to control access to protected and vital areas shall be controlled to reduce the probability of compromise. Whenever there is evidence that any key, lock, combination, or related equipment may have been compromised it shall be changed. Upon termination of employment of any employee, keys, locks, combinations, and related equipment to which that employee had access, shall be changed.

(e) *Detection aids.* (1) All alarms required pursuant to this part shall annunciate in a continuously manned central alarm station located within the protected area and in at least one other continuously manned station, not necessarily onsite, such that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm. The onsite central alarm station shall be considered a vital area and its walls, doors, ceiling, floor, and any windows in the walls and in the doors shall be bullet-resisting. The onsite central alarm station shall be located within a building such that the interior of the central alarm station is not visible from the perimeter of the protected area. This station shall not contain any operational activities that would interfere with the execution of the alarm response function.

(2) All alarm devices including transmission lines to annunciators shall be tamper indicating and self-checking e.g., an automatic indication is provided when failure of the alarm system or a component occurs, or when the system is on standby power. The annunciation of an alarm at the alarm stations shall indicate the type of alarm (e.g., intrusion alarm, emergency exit alarm, etc.) and location.

(3) All emergency exits in each protected area and each vital area shall be alarmed.

(f) *Communication requirements.* (1) Each guard, watchman or armed response individual on duty shall be capable of maintaining continuous communication with an individual in each continuously manned alarm station required by paragraph (e)(1) of this section, who shall be capable of calling for assistance from other guards, watchmen, and armed response personnel and from local law enforcement authorities.

(2) The alarm stations required by paragraph (e)(1) of this section shall have conventional telephone service for communication with the law enforcement authorities as described in paragraph (f)(1) of this section.

(3) To provide the capability of continuous communication, radio or microwave transmitted two-way voice communication, either directly or through an intermediary, shall be established. in addition to conventional telephone service, between local law enforcement authorities and the facility and shall terminate in each continuously manned alarm station required by paragraph (e)(1) of this section.

42 FR 10836

(4) Non-portable communications equipment controlled by the licensee and required by this section shall remain operable from independent power sources in the event of the loss of normal power.

(g) *Testing and maintenance.* Each licensee shall test and maintain intrusion alarms, emergency alarms, communications equipment, physical barriers, and other security related devices or equipment utilized pursuant to this section as follows:

(1) All alarms, communication equipment, physical barriers, and other security related devices or equipment shall be maintained in operable condition. The licensee shall develop and employ compensatory measures including equipment, additional security personnel and specific procedures to assure that the effectiveness of the security system is not reduced by failure or other contingencies affecting the operation of the security related equipment or structures.

(2) Each intrusion alarm shall be tested for performance at the beginning and end of any period that it is used for security. If the period of continuous use is longer than seven days, the intrusion alarm shall also be tested at least once every seven (7) days.

(3) Communications equipment required for communications onsite shall be tested for performance not less fre-

42 FR 10836

quently than once at the beginning of each security personnel work shift. Communications equipment required for communications offsite shall be tested for performance not less than once a day.

44FR68184

(4) The security program shall be reviewed at least every 12 months by individuals independent of both security management and security supervision. The review shall include a review and audit of security procedures and practices, evaluation of the effectiveness of the physical protection system, an audit of the physical protection system testing and maintenance program and an audit of commitments established for response by local law enforcement authorities. The results of the review audit and evaluation along with recommendations for corrections and improvements, if any, shall be documented, reported to the licensee's plant management and to corporate management at least one level higher than that having responsibility for the day to day plant operation. The reports shall be kept available at the plant for inspection for a period of five years.

43 FR 11962

(h) *Response requirement.* (1) The licensee shall execute, when appropriate, a safeguards contingency plan for dealing with threats, thefts and industrial sabotage related to the nuclear facilities subject to the provisions of this section. Safeguards contingency plans shall be in accordance with the criteria in Appendix C to this part, "Licensee Safeguards Contingency Plans."

43 FR 11962

(2) The licensee shall establish and document liaison with local law enforcement authorities.

(3) The total number of guards, and armed, trained personnel immediately available at the facility to fulfill these response requirements shall nominally be ten (10), unless specifically required otherwise on a case by case basis by the Commission; however, this number may not be reduced to less than five (5) guards.

44FR68184

(4) Upon detection of abnormal presence or activity of persons or vehicles within an isolation zone, a protected area, material access area, or a vital area; or upon evidence or indication of intrusion into a protected area, a material access area, or a vital area, the licensee security organization shall:

(i) Determine whether or not a threat exists,

(ii) Assess the extent of the threat, if any,

(iii) Take immediate concurrent measures to neutralize the threat by:

(A) Requiring responding guards or other armed response personnel to interpose themselves between vital areas and material access areas and any adversary attempting entry for the purpose of radiological sabotage or theft of special nuclear material and to intercept any person exiting with special nuclear material, and,

(B) Informing local law enforcement agencies of the threat and requesting assistance.

(5) The licensee shall instruct every guard and all armed response personnel to prevent or impede attempted acts of theft or radiological sabotage by using force sufficient to counter the force directed at him including the use of deadly force when the guard or other armed response person has a reasonable belief it is necessary in self-defense or in the defense of others.

42 FR 10836

(6) To facilitate initial response to detection of penetration of the protected area and assessment of the existence of a threat, a capability of observing the isolation zones and the physical barrier at the perimeter of the protected area shall be provided, preferably by means of closed circuit television or by other suitable means which limit exposure of responding personnel to possible attack.

44 FR 43280

§ 73.67 Licensee Fixed Site and In-Transit Requirements For The Physical Protection of Special Nuclear Material of Moderate and Low Strategic Significance.

(a) General Performance Objectives

(1) Each licensee who possesses, uses or transports special nuclear material of moderate or low strategic significance shall establish and maintain a physical protection system that will achieve the following objectives:

(i) Minimize the possibilities for unauthorized removal of special nuclear material consistent with the potential consequences of such actions; and

(ii) Facilitate the location and recovery of missing special nuclear material.

(2) To achieve these objectives, the physical protection system shall provide:

(i) Early detection and assessment of unauthorized access or activities by an external adversary within the controlled access area containing special nuclear material;

(11) Early detection of removal of special nuclear material by an external adversary from a controlled access area;

(iii) Assure proper placement and transfer of custody of special nuclear material; and

(iv) Respond to indications of an unauthorized removal of special nuclear material and then notify the appropriate response forces of its removal in order to facilitate its recovery.

(b)(1) A licensee is exempt from the requirements of this section to the extent that he possesses, uses, or transports (i) special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding or (ii) sealed plutonium-beryllium neutron sources totaling 500 grams or less contained plutonium at any one site or contiguous sites or (iii) plutonium with an isotopic concentration exceeding 80 percent in plutonium-238.

(2) A license who has quantities of special nuclear material equivalent to special nuclear material of moderate strategic significant distributed over several buildings may, for each building which contains a quantity of special nuclear material less than or equal to a level of special nuclear material of low strategic significance, protect the material in that building under the lower classification physical security requirements.

(c) Each licensee who possesses, uses, transports or who delivers to a carrier for transport special nuclear material of moderate strategic significance of 10 kg or more of special nuclear material of low strategic significance shall:

47 FR 19112

(1) **Submit a security plan or an amended security plan describing how the licensee will comply with all the requirements of § 73.67 (d), (e), (f) and (g), as appropriate, including schedules of implementation**

45 FR 19215

(2) Within 300 days after the effective date of these amendments or 30 days after the plan(s) submitted pursuant to paragraph (c)(1) of this section is approved, whichever is later, implement the approved security plan.

44 FR 43280

(d) Fixed Site Requirements for Special Nuclear Material of Moderate Strategic Significance—Each licensee who possesses, stores, or uses quantities and types of special nuclear material of moderate strategic significance at fixed sites, except those who are licensed to operate a nuclear power reactor pursuant to Part 50, shall:

(1) use the material only within a controlled access area which is illuminated sufficiently to allow detection and surveillance of unauthorized penetration or activities,

(2) store the material only within a controlled access area such as a vault-type room or approved security cabinet or their equivalent which is illuminated sufficiently to allow detection and surveillance of unauthorized penetration or activities,

(3) monitor with an intrusion alarm or other device or procedures the controlled access areas to detect unauthorized penetration or activities,

(4) conduct screening prior to granting an individual unescorted access to the controlled access area where the material is used or stored, in order to obtain information on which to base a decision to permit such access.

(5) develop and maintain a controlled badging and lock system to identify and limit access to the controlled access areas to authorized individuals.

(6) limit access to the controlled access areas to authorized or escorted individuals who require such access in order to perform their duties,

(7) assure that all visitors to the controlled access areas are under the constant escort of an individual who has been authorized access to the area,

(8) establish a security organization or modify the current security organization to consist of at least one watchman per shift able to assess and respond to any unauthorized penetrations or activities in the controlled access areas,

(9) provide a communication capability between the security organization and appropriate response force,

44 FR 43280

(10) search on a random basis vehicles and packages leaving the controlled access areas, and

(11) establish and maintain response procedures for dealing with threats of thefts or thefts of such materials.

(e) In-Transit Requirements for Special Nuclear Material of Moderate Strategic Significance—

(1) Each licensee who transports, exports or delivers to a carrier for transport special nuclear material of moderate strategic significance shall:

(i) provide advance notification to the receiver of any planned shipments specifying the mode of transport, estimated time of arrival, location of the nuclear material transfer point, name of carrier and transport identification,

(ii) receive confirmation from the receiver prior to the commencement of the planned shipment that the receiver will be ready to accept the shipment at the planned time and location and acknowledges the specified mode of transport,

47 FR 19112

(iii) Check the integrity of the container and locks or seals prior to shipment, and

(iv) Arrange for the in-transit physical protection of the materials in accordance with the requirements of § 73.67(e)(3) of this part unless the receiver is a licensee and has agreed in writing to arrange for the in-transit physical protection.

44 FR 43280

(2) Each licensee who receives special nuclear material of moderate strategic significance shall:

(i) check the integrity of the containers and seals upon receipt of the shipment,

(ii) notify the shipper of receipt of the material as required in Section 70.54 of Part 70 of this chapter, and

(iii) arrange for the in-transit physical protection of the material in accordance with the requirements of §73.67 (e)(3) of this part unless the shipper is a licensee and has agreed in writing to arrange for the in-transit physical protection.

47 FR 19112

(3) Each licensee who arranges for the in-transit physical protection of special nuclear material of moderate strategic significance, or who takes delivery of this material free on board (f.o.b.) the point at which it is delivered to a carrier for transport shall:

(i) Arrange for telephone or radio communications between the transport and the licensee or its designee: (A) To periodically confirm the status of the shipment (B) for notification of any delays in the scheduled shipment, and (C) to request appropriate local law enforcement agency response in the event of an emergency.

(ii) minimize the time that the material is in transit by reducing the number and duration of nuclear material transfers and by routing the material in the most safe and direct manner,

(iii) conduct screening of all licensee employees involved in the transportation of the material in order to obtain information on which to base a decision to permit them control over the material,

(iv) establish and maintain response procedures for dealing with threats of thefts or thefts of such material,

(v) make arrangements to be notified immediately of the arrival of the shipment at its destination, or of any such shipment that is lost or unaccounted for after the estimated time of arrival at its destination, and

44 FR 43280

(vi) Initiate immediately a trace investigation of any shipment that is determined to be lost or unaccounted for after a reasonable time beyond the estimated arrival time.

(vii) Notify immediately the Director of the appropriate Nuclear Regulatory Commission Regional Office listed in Appendix A of this part of the action being taken to trace the shipment.

(4) Each licensee who arranges the physical protection of strategic special nuclear material in quantities of moderate strategic significance while in transit or who takes delivery of this material free on board (f.o.b.), the point at which it is delivered to a carrier for transport shall, in addition to the requirements of (e)(1), (e)(2), and (e)(3) above:

(i) Make all shipments of the material either (A) in dedicated transports with no intermediate stops to load or unload other cargo and with no carrier or vehicle transfers or temporary storage in-transit, or (B) under arrangements whereby the custody of the shipment and all custody transfers are acknowledged by signature, and

(ii) Maintain the material under lock or under the control of an individual who has acknowledged acceptance of custody of the material by signature.

(5) Each licensee who exports special nuclear material of moderate strategic significance shall comply with the requirements specified in § 73.67(c), (e)(1), (e)(3) and (e)(4).

(6) Each licensee who imports special nuclear material of moderate strategic significance shall,

(i) Comply with the requirements specified in § 73.67 (c), (e)(2), (e)(3), (e)4).

(ii) Notify the exporter who delivered the material to a carrier for transport of the arrival of such material.

47 FR 19112

(7) If, after receiving advance notice pursuant to § 73.72 from a licensee planning to import, export, transport, deliver to a carrier for transport in a single shipment, or take delivery at the point where it is delivered to a carrier, special nuclear material of moderate strategic significance containing in any part stritegic special nuclear material, it appears to the Commission that two or more shipments of special nuclear material of moderate strategic significance, constituting in the aggregate an amount equal to or greater than a formula quantity of strategic special nuclear material, may be en route at the same time, the Commission may order one or more of the shippers to delay shipment according to the following provisions:

47 FR 19112

(i) The shipper shall provide to the Commission, upon request, such additional information regarding a planned shipment as the Commission considers pertinent to the decision on whether to delay such shipment.

(ii) The receiver of each shipment, or the shipper if the receiver is not a licensee, shall notify the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A by telephone, no later than 24 hours after arrival of such shipment at its final destination, or after such shipment has left the United States as an export, to confirm the integrity of the shipment at the time of receipt or exit from the United States.

(iii) The Commission shall notify the affected shippers no later than two days before the scheduled shipment date that a given shipment is to be delayed.

(iv) Shipments of special nuclear material of moderate strategic significance which are protected in accordance with the provisions of §§ 73.20, 73.25, and 73.26 shall not be subject to orders to delay shipment nor considered to constitute a portion of an aggregate formula quantity of strategic special nuclear material for the purposes of determining whether any shipments must be delayed.

46 FR 12696

(f) Fixed Site Requirements for Special Nuclear Material of Low Strategic Significance—Each licensee who possesses or uses special nuclear material of low strategic significance at fixed sites, except those who are licensed to operate a nuclear power reactor pursuant to Part 50, shall:

(1) store or use the material only within a controlled access area,

(2) monitor with an intrusion alarm or other device or procedures the controlled access areas to detect unauthorized penetrations or activities,

(3) assure that a watchman or offsite response force will respond to all unauthorized penetrations or activities, and

(4) establish and maintain response procedures for dealing with threats of thefts or thefts of such material.

(g) In-Transit Requirements for Special Nuclear Material of Low Strategic Significance—

(1) Each licensee who transports or who delivers to a carrier for transport special nuclear material of low strategic significance shall:

(i) provide advance notification to the receiver of any planned shipments specifying the mode of transport, estimated time of arrival, location of the nuclear material transfer point, name of carrier and transport identification,

(ii) receive confirmation from the receiver prior to commencement of the planned shipment that the receiver will be ready to accept the shipment at the planned time and location and acknowledges the specified mode of transport,

(iii) transport the material in a tamper indicating sealed container,

(iv) check the integrity of the containers and seals prior to shipment, and

(v) arrange for the in-transit physical protection of the material in accordance with the requirements of § 73.67(g)(3) of this part, unless the receiver is a licensee and has agreed in writing to arrange for the in-transit physical protection.

44 FR 43280

(2) Each licensee who receives quantities and types of special nuclear material of low strategic significance shall:

(i) check the integrity of the containers and seals upon receipt of the shipment,

(ii) notify the shipper of receipt of the material as required in § 70.54 of Part 70 of this chapter, and

(iii) arrange for the in-transit physical protection of the material in accordance with the requirements of § 73.67(g)(3) of this part, unless the shipper is a licensee and has agreed in writing to arrange for the in-transit physical protection.

(3) Each licensee, either shipper or receiver, who arranges for the physical protection of special nuclear material of low strategic significance while in transit or who takes delivery of such material free on board (f.o.b.) the point at which it is delivered to a carrier for transport shall:

(i) establish and maintain response procedures for dealing with threats of thefts or thefts of such material,

(ii) make arrangements to be notified immediately of the arrival of the shipment at its destination, or of any such shipment that is lost or unaccounted for after the estimated time of arrival at its destination, and

(iii) conduct immediately a trace investigation of any shipment that is lost or unaccounted for after the estimated arrival time and report to the Nuclear Regulatory Commission as specified in § 73.71 and to the shipper or receiver as appropriate. The licensee who made the physical protection arrangements shall also immediately notify the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A of the action being taken to trace the shipment.

(4) Each licensee who exports special nuclear material of low strategic significance shall comply with the appropriate requirements specified in § 73.67(c), (g)(1) and (g)(3).

(5) Each licensee who imports special nuclear material of low strategic significance shall:

(i) comply with the requirements specified in § 73.67(c), (g)(2) and (g)(3), and

(ii) notify the person who delivered the material to a carrier for transport of the arrival of such material.

44 FR 43280

44 FR 68184

§ 73.70 Records.

Each licensee subject to the provisions of §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.55 or § 73.60 shall keep the following records:

38 FR 35430

(a) Names and addresses of all individuals who have been designated as authorized individuals.

(b) Names, addresses, and badge numbers of all individuals authorized to have access to vital equipment or special nuclear material, and the vital areas and material access areas to which authorization is granted.

44 FR 68184

(c) A register of visitors, vendors, and other individuals not employed by the licensee pursuant to §§ 73.46(d)(10), 73.55(d)(6) or § 73.60.

38 FR 35430

(d) A log indicating name, badge number, time of entry, reason for entry, and time of exit of all individuals granted access to a normally unoccupied vital area.

(e) Documentation of all routine security tours and inspections, and of all tests, inspections, and maintenance performed on physical barriers, intrusion alarms, communications equipment, and other security related equipment used pursuant to the requirements of this part.

(f) A record at each onsite alarm annunciation location of each alarm, false alarm, alarm check, and tamper indication that identifies the type of alarm, location, alarm circuit, date, and time. In addition, details of response by facility guards and watchmen to each alarm, intrusion, or other security incident shall be recorded.

44 FR 68184

(g) Shipments of special nuclear material subject to the requirements of this part, including names of carriers, major roads to be used, flight numbers in the case of air shipments, dates and expected times of departure and arrival of shipments, verification of communication equipment on board the transfer vehicle, names of individuals who are to communicate with the transport vehicle, container seal descriptions and identification, and any other information to confirm the means utilized to comply with §§ 73.25, 73.26 and 73.27. Such information shall be recorded prior to shipment. Information obtained during the course of the shipment such as reports of all communications, change of shipping plan including monitor changes, trace investigations and others shall also be recorded.

(h) Procedures for controlling access to protected areas and for controlling access to keys for locks used to protect special nuclear material.

47 FR 11511

§ 73.71 Reports of unaccounted for shipments, suspected thefts, unlawful diversion, radiological sabotage, or events which significantly threaten or lessen the effectiveness of safeguards.

(a) Each licensee who conducts a trace investigation of a lost or unaccounted for shipment pursuant to § 73.27(c) shall notify the NRC Operations Center via the Emergency Notification System as soon as possible, and in all cases within one hour, of the details and results of its trace investigation. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notifications via commercial telephone service, other dedicated telephone systems, or any other method which will ensure a report being made promptly to the NRC Operations Center. Each licensee who conducts a trace investigation of a lost or unaccounted for shipment pursuant to § 73.67(e)(3)(vi) or § 73.67(g)(3)(iii) shall notify the NRC Operations Center via commercial telephone using the number provided in Appendix A as soon as possible, and in all cases within one hour of the details and results of its trace investigation. The licensee shall also file within a period of fifteen (15) days a written report to the appropriate NRC Regional Office setting forth the details and results of the trace investigation. A copy of this written report must be sent to the Director, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

(b) Each licensee shall notify the NRC Operations Center via the Emergency Notification System as soon as possible, and in all cases within one hour, of any incident in which an attempt has been made, or is believed to have been made, to commit a theft or unlawful diversion of special nuclear material which it is licensed to possess, or to commit an act of radiological sabotage against its plant or transportation system. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notifications via commercial telephone service, other dedicated telephone systems, or any other method which will ensure a report being made promptly to the NRC Operations Center. The initial notification must be followed within a period of fifteen (15) days by a written report, submitted to the appropriate NRC Regional Office shown in Appendix A of this part setting forth the details of the incident. Copies of the written report are to be sent to the Director of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. After the submission of the written report required by this paragraph, a licensee shall immediately inform the appropriate Regional Office by means of a written report of any substantive additional information which becomes available to the licensee concerning the incident.

47 FR 11511

(c) Each licensee under either a specific or general license shall notify the NRC Operations Center via the Emergency Notification System as soon as possible, and all cases within one hour, of any event which significantly threatens or lessens the effectiveness of a physical security system as established by regulations in this chapter, or by the licensee's approved physical security, contingency, and security personnel qualification and training plans, or by both. If the Emergency Notification System is inoperative or unavailable, the licensee shall make the required notifications via commercial telephone service, other dedicated telephone systems, or any other method which will ensure a report being made promptly to the NRC Operations Center. This notification must be made within the time period specified below. The time period begins upon discovery of the event by any member of the security organization or any other employee of the licensee. The licensee shall submit a written report to the appropriate NRC Regional Office, listed in Appendix A of this part, describing the event in detail within 5 days of the time of discovery. A copy of this written report must be sent to the Director of Inspection and Enforcement, U.S. Regulatory Commission, Washington, D.C. 20555. This notification and these reports satisfy both the notification requirements of Part 21 of this chapter, if the event is also reportable under Part 21, and § 50.72(a)(4) of this chapter, if applicable. A separate log must be maintained to record events reportable under § 73.71. Licensees need not report any event which is designated as not reportable in their security or contingency plans.

46 FR 4858

Reporting of Physical Security Events

Note.—This Table should be used in conjunction with the Responsibility Matrix developed under the requirements of 10 CFR Part 73, Appendix C—Licensee Safeguards Contingency Plans.

Event	Reporting time to NRC
Explicit threat [1]	Within 1 hour.
Major loss of physical security effectiveness [2].	Within 1 hour.
Potential threat [3]	Within 24 hours.
Major loss of physical security effectiveness which has been properly compensated [4].	Within 24 hours.
Moderate loss of physical security effectiveness [5].	Within 24 hours.
Moderate loss of physical security effectiveness which has been properly compensated.	No requirement, log in licensee's records.

[1] Explicit Threat. An explicit threat is information received by a security organization that an act of theft or radiological sabotage will be attempted. All licensees may be subject to this event.

47 FR 11511

[2] **Major Loss of Physical Security Effectiveness. A major loss of physical security effectiveness occurs (1) when security features break down without proper compensation allowing unauthorized or undetected access to material access or vital areas, to shipments of formula quantities of SSNM or irradiated reactor fuel. or at facilities licensed to possess formula quantities of SSNM, or (2) when the communication systems used to summon offsite response become inoperative without proper compensation. Licensees which are required to meet the requirements of 10 CFR 73.20, 73.37, 73.50, and 73.55 may be subject to this event.**

46 FR 4858

[3] Potential Threat. A potential threat is information received by a security organization which supports a belief that an act of theft or radiological sabotage will be attempted. All licensees may be subject to this event.

[4] Property Compensated. Property compensated means measures as specified in a security or contingency plan or, if the event is not specified in either of these plans, it means measures implemented within 10 minutes of an event's occurrence that provide a level of security equivalent to that existing before the event. Licensees which are required to meet the requirements of 10 CFR §73.20, §73.37 and §73.50 may be subject to this event.

[5] Moderate Loss of Physical Security Effectiveness. A moderate loss of physical security effectiveness occurs when: (1) a major loss of effectiveness occurs but is properly compensated. (2) security features breakdown which allow unauthorized or undetected access to protected or controlled access areas or shipments of moderate strategic significance nuclear material. (3) a breakdown in security features protecting material access or vital areas occurs which leaves these areas under the protection of only one security system. (This includes loss of either alarm station.) All licensees may be subject to this event.

50 FR 12221

§73.72 Requirement for advance notice of shipment of formula quantities of strategic special nuclear material, special nuclear material of moderate strategic significance, or irradiated reactor fuel.

(a) A licensee, other than one specified in paragraph (b) of this section, who, in a single shipment, plans to deliver to a carrier for transport, to take delivery at the point where a shipment is delivered to a carrier for transport, to import, to export, or to transport a formula quantity of strategic special nuclear material, special nuclear material of moderate stategic significance, or irradiated reactor fuel required to be protected in accordance with § 73.37, shall:

(1) Notify in writing the Material Transfer Safeguards Licensing Branch, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipping facility;

(3) Include the following information in the notification:

(i) The name(s), address(es), and telephone number(s) of the shipper, receiver and carrier(s);

(ii) A physical description of the shipment: (A) for a shipment other than irradiated fuel, the elements, isotopes, enrichment, and quantity; (B) for a shipment of irradiated fuel, the physical form, quantity, type of reactor, and original enrichment;

(iii) A listing of the mode(s) of shipment, transfer point(s) and route(s) to be used;

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) the estimated time and date of arrival of the shipment at the destination;

(v) The estimated time and date of arrival of the shipment at the destination;

(4) Notify the Material Transfer Safeguards Licensing Branch by telephone at 301–427–4186 at least 10 days before transport of the shipment commences at the shipping facility that an advance notice has been sent: and

(5) Notify the Material Transfer Licensing Branch by telephone at 301–427–4186 of any changes to the shipment itinerary.

(b) A licensee who makes a road shipment or transfer with one-way transit times of one hour or less in duration between installations of the licensee is exempt from the requirements of this section for that shipment or transfer.

§ 73.73 Requirement for advance notice and protection of export shipments of special nuclear material of low strategic significance.

(a) A licensee authorized to export special nuclear material of low strategic significance shall:

(1) Notify in writing the Material Transfer Safeguards Licensing Branch, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipper's facility;

(3) Include the following information in the notification:

(i) The name(s) address(es), and telephone number(s) of the shipper, receiver and carrier(s);

(ii) A physical description of the shipment (the elements, isotopes, form, etc.);

(iii) A listing of the mode(s) of shipment, transfer points, and routes to be used;

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) The estimated time and date of arrival of the shipment at the destination;

(4) Assure that during transport outside the U.S., the shipment will be protected in accordance with Annex I to the Convention on the Physical Protection of Nuclear Material (see Appendix E of this part).

(b) A licensee who needs to amend a written advance notification required by paragraph (a) of this section may do so by telephoning the Material Transfer Safeguards Licensing Branch at 301–427–4186.

50 FR 12221

§ 73.74 Requirement for advance notice and protection of import shipments of nuclear material from countries that are not party to the Convention on the Physical Protection of Nuclear Material.

(a) A licensee authorized to import special nuclear material of low strategic significance from a country not a party to the Convention on the Physical Protection of Nuclear Material (i.e., not listed in Appendix F of this part) shall:

(1) Notify in writing the Material Transfer Safeguards Licensing Branch, U.S. Nuclear Regulatory Commission, Washington, DC 20555;

(2) Assure that the notification will be received at least 10 days before transport of the shipment commences at the shipper's facility; and

(3) Include the following information in the notification:

(i) The name(s), address(es) and telephone number(s) of the shipper, receiver and carrier(s);

(ii) A physical description of the shipment (the isotopes, enrichment, quantity, etc.);

(iii) A listing of mode(s) of shipment, transfer points, and routes to be used; and

(iv) The estimated time and date that shipment will commence and that each country along the route is scheduled to be entered; and

(v) The estimated time and date of arrival of the shipment at the destination.

(b) A licensee who needs to amend a written advance notification required by paragraph (a) of this section may do so

by telephoning the Material Transfer Safeguards Licensing Branch at 301-427-4186.

(c) A licensee authorized to import from a country not a party to the Convention on the Physical Protection of Nuclear Material (i.e., not listed in Appendix F of this part) a formula quantity of special nuclear material, special nuclear material of moderate strategic significance, special nuclear material of low strategic significance, or irradiated reactor fuel shall assure that during transport outside the U.S. the shipment will be protected in accordance with Annex I to the Convention on the Physical Protection of Nuclear Material (see Appendix E of this part).

50 FR 12221

§ 73.80 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, 109, or 147 of the Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

46 FR 51718

49 FR 47823

APPENDIX A.—UNITED STATES NUCLEAR REGULATORY COMMISSION REGIONAL OFFICES

	Addresses	Telephone (24 hours)
NRC Operations Center (via NRC Operator)	USNRC, Office of Inspection and Enforcement Washington, DC 20555	(301) 492-7000 (FTS) 492-7000
Region I. Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.	USNRC, 631 Park Avenue, King of Prussia, PA 19406.	(215) 337-5000 (FTS) 488-1000
Region II. Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Puerto Rico, South Carolina, Tennessee, Virginia, Virgin Islands, and West Virginia.	USNRC, 101 Marietta Street, NW Suite 2900, Atlanta, GA 30323.	(404) 221-4505 (FTS) 242-4503
Region III: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.	USNRC, 799 Roosevelt Road, Glen Ellyn, IL 60137.	(312) 790-5500 (FTS) 388-5500
Region IV.[1] Arkansas, Colorado, Idaho, Kansas, Louisiana, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming.	USNRC, 611 Ryan Plaza Drive, Suite 1000, Arlington, TX 76011.	(817) 860-8100 (FTS) 728-8100
Region IV Field Office	USNRC Region IV Uranium Recovery Field Office, 730 Simms Street, P. O. Box 25325, Denver, CO 80225.	(303) 234-7232 (FTS) 234-7232
Region V: Alaska, Arizona, California, Hawaii, Nevada, Oregon, Pacific Trust Territories, and Washington.	USNRC, 1450 Maria Lane, Suite 210, Walnut Creek, CA 94596.	(415) 943-3700 (FTS) 463-3700

[1] For calls related to Material Control and Accounting matters, consult the following Regions: Arkansas—II, Colorado—V, Idaho—V, Kansas—III, Louisiana—II, Montana—V, Nebraska—III, New Mexico—V, North Dakota—III, Oklahoma—III, South Dakota—III, Texas—V, Utah—V, and Wyoming—V.

Appendix B—General Criteria for Security Personnel

TABLE OF CONTENTS

Introduction.
Definitions.
Criteria.
- I. Employment suitability and qualification.
  - A. Suitability.
  - B. Physical and mental qualifications.
  - C. Physical fitness qualifications.
  - D. Contract security personnel.
  - E. Physical requalification.
  - F. Documentation.
- II. Training and qualifications.
  - A. Training requirements.
  - B. Qualification requirements.
  - C. Contract personnel.
  - D. Security knowledge, skills, and abilities.
  - E. Requalification.
- III. Weapons training and qualification.
- IV. Weapons qualification and requalification program.
- V. Guard, armed response personnel, and armed escort equipment.
  - A. Fixed site.
  - B. Transportation.

Introduction

Pursuant to the provisions of 73.50 and 73.55 of 10 CFR part 73, Requirements for Physical Protection of Plants and Materials, each licensee who is authorized to conduct certain activities with specified quantities of special nuclear material pursuant to 10 CFR Part 70 and each licensee who is authorized to operate a production or utilization facility pursuant to 10 CFR part 50, respectively, is required to establish a security organization, including trained and equipped guards to physically protect special nuclear material in their possession and their facilities against theft and industrial sabotage.

Further, pursuant to the provisions of 73.30 through 73.36 of 10 CFR part 73, certain shipments of special nuclear material are required to be accompanied by armed escorts.

Security personnel who are responsible for the protection of special nuclear material onsite and in transit and for the protection of the facility or shipment vehicle against industrial sabotage should, like other elements of the physical security system, be required to meet minimum criteria to assure that they will effectively perform their assigned security related job duties. In order to assure that those individuals responsible for security are properly equipped and qualified to execute the job duties prescribed for them, the NRC has developed general criteria which specifies security personnel qualification requirements.

These general criteria establish requirements for the selection, training, equipping, testing, and qualification of individuals who will be responsible for protecting special nuclear materials, nuclear facilities, and nuclear shipments.

Definitions

Terms defined in parts 50, 70, and 73 of this chapter have the same meaning when used in this appendix.

Criteria

I. Employment suitability and qualification.

A. Suitability: 1. Prior to employment, or assignment to the security organization, an individual shall meet the following suitability criteria:

a. Educational development—Possess a high school diploma or pass an equivalent performance examination designed to measure basic job-related mathematical, language, and reasoning skills, ability, and knowledge, required to perform security job duties.

43 FR 37421

b. Felony convictions—Have no felony convictions involving the use of a weapon and no felony convictions that reflect on the individual's reliability.

2. Prior to employment or assignment to the security organization in an armed capacity, the individual, in addition to (a) and (b) above, must be 21 years of age or older.

B. Physical and mental qualifications. 1. Physical qualifications:

a. Individuals whose security tasks and job duties are directly associated with the effective implementation of the licensee physical security and contingency plans shall have no physical weaknesses or abnormalities that would adversely affect their performance of assigned security job duties.

b. In addition to a. above, guards, armed response personnel, armed escorts, and central alarm station operators shall successfully pass a physical examination administered by a licensed physician. The examination shall be designed to measure the individual's physical ability to perform assigned security job duties as identified in the licensee physical security and contingency plans. Armed personnel shall meet the following additional physical requirements:

(1) Vision: (a) For each individual, distant visual acuity in each eye shall be correctable to 20/30 (Snellen or equivalent) in the better eye and 20/40 in the other eye with eyeglasses or contact lenses. If uncorrected distance vision is not at least 20/40 in the better eye, the individual shall carry an extra pair of corrective lenses. Near visual acuity, corrected or uncorrected, shall be at least 20/40 in the better eye. Field of vision must be at least 70° horizontal meridian in each eye. The ability to distinguish red, green, and yellow colors is required. Loss of vision in one eye is disqualifying. Glaucoma shall be disqualifying, unless controlled by acceptable medical or surgical means, provided such medications as may be used for controlling glaucoma do not cause undesirable side effects which adversely affect the individual's ability to perform assigned security job duties, and provided the visual acuity and field of vision requirements stated above are met. On-the-job evaluation shall be used for individuals who exhibit a mild color vision defect.

(b) Where corrective eyeglasses are required, they shall be of the safety glass type.

(c) The use of corrective eyeglasses or contact lenses shall not interfere with an individual's ability to effectively perform assigned security job duties during normal or emergency operations.

43 FR 37421

(2) Hearing: (a) Individuals shall have no hearing loss in the better ear greater than 30 decibels average at 500 Hz, 1,000 Hz, and 2,000 Hz, with no level greater than 40 decibels at any one frequency (by ISO 389 "Standard Reference Zero for the Calibration of Purtone Audiometer" (1975) or ANSI S3.6—1969 (R 1973) "Specifications for Audiometers")

46 FR 2025

(b) A hearing aid is accepable provided suitable testing procedures demonstrate auditory acuity equivalent to the above stated requirement.

(c) The use of a hearing aid shall not decrease the effective performance of the individual's assigned security job duties during normal or emergency operations.

(3) Diseases—Individuals shall have no established medical history or medical diagnosis of epilepsy or diabetes, or, where such a condition exists, the individual shall provide medical evidence that the condition can be controlled with proper medication so that the individual will not lapse into a coma or unconscious state while performing assigned security job duties.

(4) Addiction-Individuals shall have no established medical history or medical diagnosis of habitual alcoholism or drug addiction, or, where such a condition has existed, the individual shall provide certified documentation of having completed a rehabilitation program which would give a reasonable degree of confidence that the individual would be capable of performing assigned security job duties.

(5) Other physical requirements—An individual who has been incapacitated due to a serious illness, injury, disease, or operation, which could interfere with the effective performance of assigned security job duties shall, prior to resumption of such duties, provide medical evidence of recovery and ability to perform such security job duties.

2. Mental qualifications: a. Individuals whose security tasks and job duties are directly associated with the effective implementation of the licensee physical security and contingency plans shall demonstrate mental alertness and the capability to exercise good judgment, implement instructions, assimilate assigned security tasks, and possess the acuity of senses and ability of expression sufficient to permit accurate communication by written, spoken, audible, visible, or other signals required by assigned job duties.

b. Armed individuals, and central alarm station operators, in addition to meeting the requirement stated in paragraph a. above, shall have no emotional instability that would interfere with the effective performance of assigned security job duties. The determination shall be made by a licensed psychologist or psychiatrist, or physician, or other person professionally trained to identify emotional instability.

c. The licensee shall arrange for continued observation of security personnel and for appropriate corrective measures by responsible supervisors for indications of emotional instability of individuals in the course of performing assigned security job duties. Identification of emotional instability by responsible supervisors shall be subject to verification by a licensed, trained person.

C. Physical fitness qualifications—Subject to a medical examination conducted within the preceding 30 days and to a determination and written certification by a licensed physician that there are no medical contraindications to participation by the individual as disclosed by the medical examination, guards, armed response personnel and armed escorts shall demonstrate physical fitness for assigned security job duties by performing a practical physical exercise program within a specific time period. The exercise program performance objectives shall be described in the licensee training and qualifications plan, and shall consider such job related functions as strenuous activity, physical exertion, levels of stress, and exposure to the elements as they pertain to each individual's assigned security job duties for both normal and emergency operations. The physical fitness qualification of each guard, armed response person, and armed escort shall be documented and attested by a licensee security supervisor.

D. Contract security personnel—Contract security personnel shall be required to meet the suitability, physical, and mental requirements as appropriate to their assigned security job duties in accordance with section I of this appendix.

E. Physical requalification—At least every 12 months, central alarm station operators shall be required to meet the physical requirements of B.1.b of this section and

43 FR 37421

guards, armed response personnel and armed escorts, shall be required to meet the physical requirements of paragraphs B.1.b (1) and (2), and C of this section.

F. Documentation—The results of suitability, physical, and mental qualifications data and test results shall be documented by the licensee or his agent.

G. Nothing herein authorizes or requires a licensee to investigate into or judge the reading habits, political or religious beliefs, or attitudes on social, economic, or political issues of any person.

II. Training and qualifications.

A. Training requirements—Each individual who requires training to perform assigned security related job tasks or job duties as identified in the licensee physical security or contingency plans, shall prior to assignment, be trained to perform such tasks and duties in accordance with the licensee or his agent's documented training and qualifications plan.

B. Qualification requirements—Each person who performs security related job tasks or job duties required to implement the licensee physical security or contingency plan shall, prior to being assigned to such tasks or duties, be qualified in accordance with the licensee's NRC approved training and qualifications plan. The qualifications of each individual shall be documented and attested by a licensee security supervisor.

C. Contract personnel—Contract personnel shall be trained, equipped, and qualified as appropriate to their assigned security related job tasks or job duties, in accordance with sections II, III, IV, and V of this appendix. The qualifications of each individual shall be documented and attested by a licensee security supervisor.

43 FR 37421

D. Security knowledge, skills, and abilities—Each individual assigned to perform the security related task identified in the licensee physical security or contingency plan shall demonstrate the required knowledge, skill, and ability in accordance with the specified standards for each task as stated in the NRC approved licensee training and qualifications plan. The areas of knowledge, skills, and abilities that shall be considered in the licensee's training and qualifications plan are as follows:

1. Protection of nuclear facilities, transport vehicles, and special nuclear material.
2. NRC requirements and guidance for physical security at nuclear facilities and for transportation.
3. The private security guard's role in providing physical protection for the nuclear industry.
4.The authority of private guards.
5. The use of nonlethal weapons.
6. The use of deadly force.
7. Power of arrest and authority to detain individuals.
8. Authority to search individuals and seize property.
9. Adversary group operations.
10. Motivation and objectives of adversary groups.
11. Tactics and force that might be used by adversary groups to achieve their objectives.
12. Recognition of sabotage related devices and equipment that might be used against the licensee's facility or shipment vehicle.
13. Facility security organization and operation.
14.Types of physical barriers.
15. Weapons, lock and key control system operation.
16. Location of SNM and/or vital areas within a facility.
17. Protected area security and vulnerability.
18. Types of alarm systems used.
19. Response and assessment to alarm annunciations and other indications of intrusion.
20. Familiarization with types of special nuclear material processed.
21. General concepts of fixed site security systems.
22. Vulnerabilities and consequences of theft of special nuclear material or industrial sabotage of a facility.
23. Protection of security system information.
24. Personal equipment use and operation for normal and contingency operations.
25. Surveillance and assessment systems and techniques.
26. Communications systems operation, fixed site.
27. Access control systems and operation for individuals, packages, and vehicles.
28. Contraband detection systems and techniques.
29. Barriers and other delay systems around material access or vital areas.
30. Exterior and interior alarm systems operation.
31. Duress alarm operation.
32. Alarm stations operation.
33. Response force organization.
34. Response force mission.
35. Response force operation.
36. Response force engagement.
37. Security command and control system during normal operation.
38. Security command and control system during contingency operation.
39. Transportation systems security organization and operation.

43 FR 37421

40. Types of SNM transport vehicles.
41. Types of SNM escort vehicles.
42. Modes of transportation for SNM.
43. Road transport security system command and control structure.
44. Use of weapons.
45. Communications systems operation for transportation, shipment to control center and intraconvoy.
46. Vulnerabilities and consequences of theft of special nuclear material or industrial sabotage of a transport vehicle.
47. Protection of transport system security information.
48. Control of area around transport vehicle.
49. Normal convoy techniques and operations.
50. Familiarization with types of special nuclear materials shipped.
51. Fixed post station operations.
52. Access control system operation.
53. Search techniques and systems for individuals, packages and vehicles.
54. Escort and patrol responsibilities and operation.
55. Contengency response to confirmed intrusion or attempted intrusion.
56. Security system operation after component failure.
57. Fixed site security information protection.
58. Security coordination with local law enforcement agencies.
59. Security and situation reporting, documentation and report writing.
60. Contingency duties.
61. Self defense.
62. Use of and defenses against incapacitating agents.
63. Security equipment testing.
64. Contingency procedures.
65. Night vision devices and systems.
66. Mechanics of detention.
67. Basic armed and unarmed defensive tactics.
68. Response force deployment.
69. Security alert procedures.
70. Security briefing procedures.
71. Response force tactical movement.
72. Response force withdrawal.
73. Reponse force use of support fire.
74. Response to bomb and attack threats.
75. Response to civil disturbances (e.g., strikes, demonstrators).
76. Response to confirmed attempted theft of special nuclear material and/or industrial sabotage of facilities.
77. Response to hostage situations.
78. Site specific armed tactical procedures and operation.
79. Security response to emergency situations other than security incidents.
80. Basic transportation defensive response tactics.
81. Armed escort deployment.
82. Armed escort adversary engagement.
83. Armed escort formations.
84. Armed escort use of weapons fire (tactical and combat).
85. Armed escort and shipment movement under fire.
86. Tactical convoying techniques and operations.
87. Armed escort tactical exercises.
88. Armed escort response to bomb and attack threats.
89. Verification of shipment documentation and contents.
90. Continuous surveillance of shipment vehicle.
91. Normal and contingency operation for shipment mode transfer.

43 FR 37421

92. Armed personnel procedures and operation during temporary storage between mode transfers of shipments.
93. Armed escort threat assessment and response.
94. System for and operation of shipment vehicle lock and key control.
95. Techniques and procedures for isolation of shipment vehicle during a contingency situation.
96. Transportation coordination with local law enforcement agencies.
97. Procedures for verification of shipment locks and seals.
98. Transportation security and situation reporting, documentation, and report writing.
99. Procedures for shipment delivery and pickup.
100. Transportation security system for escort by road, rail, air and sea.

E. Requalification—Security personnel shall be requalified at least every 12 months to perform assigned security related job tasks and duties for both normal and contingency operations. Requalification shall be in accordance with the NRC approved licensee training and qualifications plan. The results of requalification shall be documented and attested by a licensee security supervisor.

III. Weapons training.

A. Guards, armed response personnel and armed escorts requiring weapons training to perform assigned security related job tasks or job duties shall be trained in accordance with the licensees' documented weapons training programs. Each individual shall be proficient in the use of his assigned weapon(s) and shall meet prescribed standards in the following areas:

1. Mechanical assembly, dissassembly, range penetration capabilitity of weapon, and bullseye firing.
2. Weapons cleaning and storage.
3. Combat firing, day and night.
4. Safe weapons handling.
5. Clearing, loading, unloading, and reloading.

6. When to draw and point a weapon.
7. Rapid fire techniques.
8. Close quarter firing.
10. Zeroing assigned weapon(s).

IV. Weapons qualification and requalification program.

Qualification firing for the handgun and the rifle shall be for daylight firing, and each individual shall perform night firing for familiarization with assigned weapons(s). The results of weapons qualification and requalification shall be documented by the licensee or his agent.

A. Handgun—Guards, armed escorts and armed response personnel shall qualify with a revolver or semiautomatic pistol firing the national police course, or an equivalent nationally recognized course. Qualifying score shall be an accumulated total of 70 percent of the maximum obtainable score.

B. Semiautomatic Rifle—Guards, armed escorts and armed response personnel, assigned to use the semiautomatic rifle by the licensee training and qualifications plan, shall qualify with a semiautomatic rifle by firing the 100-yard course of fire specified in section 17.5(1) of the National Rifle Association, High Power Rifle Rules book (effective March 15, 1976),[1] or a nationally recognized equivalent course of fire. Targets used shall be as stated in section 17.5 for the 100-yard course. Time limits for individuals shall be as specified in section 8.2 of the NRA rule book, regardless of the course fired. Qualifying score shall be an accumulated total of 80 percent of the maximum obtainable score.

C. Shotgun—Guards, armed escorts, and armed response personnel assigned to use the 12 gauge shotgun by the licensee training and qualifications plan shall qualify with a full choke or improved modified choke 12 gauge shotgun firing the following course:

43 FR 37421

Range	Position	No. Rounds[1]	Target[2]
15 yds..........	Hip fire point.	4	B-27
25 yds..........	Shoulder	4	B-27

[1] The 4 rounds shall be fired at 4 separate targets within 10 seconds using 00 gauge (9 pellet) shotgun shells.

[2] As set forth by the National Rifle Association (NRA) in its official rules and regulations, "NRA Target Manufacturers Index," December 1976.

To qualify the individual shall be required to place 50 percent of all pellets (36 pellets) within the black silhouette.

D. Requalification—Individuals shall be weapons requalified at least every 12 months in accordance with the NRC approved licensee training and qualifications plan, and in accordance with the requirements stated in A, B, and C of this section.

V. Guard, armed response personnel, and armed escort equipment.

A. Fixed Site—Fixed site guards and armed response personnel shall either be equipped with or have available the following security equipment appropriate to the individual's assigned contingency security related tasks or job duties as described in the licensee physical security and contingency plans:

1. Semiautomatic rifles with following nominal minimum specifications:
(a) .223 caliber.
(b) Muzzle velocity, 1980 ft/sec.
(c) Muzzle energy, 955 foot-pounds.
(d) Magazine or clip load of 10 rounds.
(e) Magazine reload, 0 10 seconds.
(f) Operable in any environment in which it will be used.

2. 12 gauge shotguns with the following capabilities:
(a) 4 round pump or semiautomatic.
(b) Operable in any environment in which it will be used.
(c) Full or modified choke.

3. Semiautomatic pistols or revolvers with the following nominal minimum specifications:
(a) .354 caliber.
(b) Muzzle energy, 250 foot-pounds.
(c) Full magazine or cylinder reload capability 0 6 seconds.
(d) Muzzle velocity, 850 ft/sec.
(e) Full cylinder or magazine capacity, 6 rounds.
(f) Operable in any environment in which it will be used.

4. Ammunition:
(a) For each assigned weapon as appropriate to the individual's assigned contingency security job duties and as readily available as the weapon:
(1) 18 rounds per handgun.
(2) 100 rounds per semiautomatic rifle.
(3) 12 rounds each per shotgun (00 gauge and slug).
(b) Ammunition available on site—two (2) times the amount stated in (a) above for each weapon.

5. Personal equipment to be readily available for individuals whose assigned contingency security job duties, as described in the licensee physical security and contingency plans, warrant such equipment:

43 FR 37421

(a) Helmet, combat.
(b) Gas mask, full face.
(c) Body armor (bullet-resistant vest).
(d) Flashlights and batteries.
(e) Baton.
(f) Handcuffs.
(g) Ammunition/equipment belt.
6. Binoculars.
7. Night vision aids, i.e., hand-fired illumination flares or equivalent.
8. Tear gas or other nonlethal gas.
9. Duress alarms.
10. Two-way portable radios (handi-talkie) 2 channels minimum, 1 operating and 1 emergency.

B. Transportation—Armed escorts shall either be equipped with or have readily available the following security equipment appropriate to the individual's assigned contingency security related tasks or job duties, as described in the licensee physical security and contingency plans:

1. Semiautomatic rifles with the following nominal minimum specifications:
(a) .223 caliber.
(b) Muzzle velocity, 1,980 ft/sec.
(c) Muzzle energy, 955 foot-pounds.
(d) Magazine or clip of 10 rounds.
(e) Reload capability, 0 10 seconds.
(f) Operable in any environment in which it will be used.

2. 12 gauge shotguns.
(a) 4 round pump or semiautomatic.
(b) Operable in any environment in which it will be used.
(c) Full or modified choke.

3. Semiautomatic pistols or revolvers with the following nominal minimum specifications:
(a) .354 caliber.
(b) Muzzle energy, 250 foot-pounds.
(c) Full magazine or cylinder reload capability 0 6 seconds.
(d) Muzzle velocity, 850 ft/sec.
(e) Full cylinder or magazine capacity, 6 rounds.
(f) Operable in any environment in which it will be used.

4. Ammunition for each shipment.
(a) For each assigned weapon as appropriate to the individual's assigned contingency security job duties and as readily available as the weapon:
(1) 36 rounds per handgun.
(2) 120 rounds per semiautomatic rifle.
(3) 12 rounds each per shotgun (00 gauge and slug).

5. Escort vehicles, bullet resisting, equipped with communications systems, red flares, first aid kit, emergency tool kit, tire changing equipment, battery chargers for radios (where appropriate, for recharging portable radio batteries).

43 FR 37421

6. Personal equipment to be readily available for individuals whose assigned contingency security job duties, as described in the licensee physical security and contingency plans, warrant such equipment:
(a) Helmet, combat.
(b) Gas mask, full face.
(c) Body armor (bullet-resistant vest).
(d) Flashlights and batteries.
(e) Baton.
(f) Ammunition/equipment belt.
(g) Pager/duress alarms.
7. Binoculars.
8. Night vision aids, i.e., hand-fired illumination flares or equivalent.
9. Tear gas or other nonlethal gas.

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[1] Copies of the "NRA High Power Rifle Rules" may be examined at, or obtained from, the National Rifle Association, 1600 Rhode Island Avenue NW., Washington, D.C. 20036.

APPENDIX C—LICENSEE SAFEGUARDS CONTINGENCY PLANS

INTRODUCTION

A licensee safeguards contingency plan is a documented plan to give guidance to licensee personnel in order to accomplish specific, defined objectives in the event of threats, thefts, or industrial sabotage relating to special nuclear material or nuclear facilities licensed under the Atomic Energy Act of 1954, as amended. An acceptable safeguards contingency plan must contain (1) a predetermined set of decisions and actions to satisfy stated objectives, (2) an identification of the data, criteria, procedures, and mechanisms necessary to effect efficiently the decisions and actions, and (3) a specification of the individual, group, or organizational entity responsible for each decision and action.

The goals of licensee safeguards contingency plans for dealing with threats, thefts, and industrial sabotage are (1) to organize the response effort at the licensee level, (2) to provide predetermined, structured reponses by licensees to safeguards contingencies, (3) to ensure the integration of the licensee response with the responses by other entities, and (4) to achieve a measurable performance in response capability. Licensee safeguards contingency planning should result in organizing the licensee's resources in such a way that the participants will be identified, their several responsibilities specified, and the responses coordinated. The responses should be timely and internally consistent among themselves.

It is important to note that a licensee's safeguards contingency plan is intended to be complementary to any emergency plans developed pursuant to Appendix E of Part 50 of this chapter or to § 70.22(i) of Part 70 of this chapter.

43 FR 11962

CONTENTS OF THE PLAN

Each licensee safeguards contingency plan shall include five categories of information:

1. Background
2. Generic Planning Base
3. Licensee Planning Base
4. Responsibility Matrix
5. Procedures

Although the implementing procedures (the fifth category of Plan information) are the culmination of the planning process, and therefore are an integral and important part of the safeguards contingency plan, they entail operating details subject to frequent changes. They need not be submitted to the Commission for approval, but will be inspected by NRC staff on a periodic basis. The licensee is responsible for ensuring that the implementing procedures reflect the information in the Responsibility Matrix, appropriately* summarized and suitably presented for effective use by the responding entities.

The following paragraphs describe the contents of the safeguards contingency plan.

1. *Background.* Under the following topics, this category of information shall identify and define the perceived dangers and incidents with which the plan will deal and the general way it will handle these:

a. Perceived Danger—A statement of the perceived danger to the security of special nuclear material, licensee personnel, and licensee property, including covert diversion of special nuclear material, industrial sabotage, and overt attacks. The statement of perceived danger should conform with that promulgated by the Nuclear Regulatory Commission. (The statement contained in 10 CFR 73.55(a) or subsequent Commission statements will suffice.)

b. Purpose of the Plan—A discussion of the general aims and operational concepts underlying implementation of the plan.

c. Scope of the Plan—A delineation of the types of incidents covered in the plan.

d. Definitions—A list of terms and their definitions used in describing operational and technical aspects of the plan.

2. *Generic Planning Base.* Under the following topics, this category of information shall define the criteria for initiation and termination of responses to safeguards contingencies together with the specific decisions, actions, and supporting information needed to bring about such responses:

a. Identification of those events that will be used for signaling the beginning or aggravation of a safeguards contingency according to how they are perceived initially by licensee's personnel. Such events may include alarms or other indications signaling penetration of a protected area, vital area, or material access area; material control or material accounting indications of material missing or unaccounted for; or threat indications—either verbal, such as telephoned threats, or implied, such as escalating civil disturbances.

b. Definition of the specific objetive to be accomplished relative to each identified event. The objective may be to obtain a level of awareness about the nature and severity of the safeguards contingency in order to prepare for further responses; to establish a level of response preparedness; or to successfully nullify or reduce any adverse safeguards consequences arising from the contingency.

3. *Licensee Planning Base.* This category of information shall include the factors affecting contingency planning that are specific for each facility or means of transportation. To the extent that the topics are treated in adequate detail in the licensee's approved physical security plan, they may be incorporated by cross reference to that plan. The following topics should be addressed:

43 FR 11962

a. Licensee's Organizational Structure for Contingency Responses—A delineation of the organization's chain of command and delegation of authority as these apply to safeguards contingencies.

b. Physical Layout—(i) Fixed Sites—A description of the physical structures and their location on the site, and a description of the site in relation to nearby town, roads, and other environmental features important to the effective coordination of response operations. Particular emphasis should be placed on main and alternate entry routes for law-enforcement assistance forces and the location of control points for marshalling and coordinating response activities.

(ii) Transportation—A description of the vehicles, shipping routes, preplanned alternate routes, and related features.

c. Safeguards Systems Hardware—A description of the physical security and accounting system hardware that influence how the licensee will respond to an event. Examples of systems to be discussed are communications, alarms, locks, seals, area access, armaments, and surveillance.

d. Law Enforcement Assistance—A listing of available local law enforcement agencies and a description of their response capabilities and their criteria for response; and a discussion of working agreements or arrangements for communicating with these agencies.

e. Policy Constraints and Assumptions—A discussion of State laws, local ordinances, and company policies and practices that govern licensee response to incidents. Examples that may be discussed include:

Use of deadly force;

Use of employee property;

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*Amended 43 FR 14007.

Use of off-duty employees;

Site security jurisdictional boundaries.

f. Administrative and Logistical Considerations—Descriptions of licensee practices that may have an influence on the response to safeguards contingency events. The considerations shall include a description of the procedures that will be used for ensuring that all equipment needed to effect a successful response to a safeguards contingency will be easily accessible, in good working order, and in sufficient supply to provide redundancy in case of equipment failure.

43 FR 11962

4. *Responsibility Matrix.* This category of information consists of detailed identification of the organizational entities responsible for each decision and action associated with specific responses to safeguards contingencies. For each initiating event, a tabulation shall be made for each response entity depicting the assignment of responsibilities for all decisions and actions to be taken in response to the initiating event. (Not all entities will have assigned responsibilities for any given initiating event.) The tabulations in the Responsibility Matrix shall provide an overall picture of the response actions and their interrelationships. Safeguards responsibilities shall be assigned in a manner that precludes conflict in duties or responsibilities that would prevent the execution of the plan in any safeguards contingency.

5. *Procedures.* In order to aid execution of the detailed plan as developed in the Responsibility Matrix, this category of information shall detail the actions to be taken and decisions to be made by each member or unit of the organization as planned in the Responsibility Matrix.

Appendix D—Physical Protection of Irradiated Reactor Fuel in Transit, Training Program Subject Schedule.

Pursuant to the provision of § 73.37 of 10 CFR Part 73, each licensee who transports or delivers to a carrier for transport irradiated reactor fuel is required to assure that individuals used as shipment escorts have completed a training program. The subjects that are to be included in this training program are as follows:

44 FR 34466

Security Enroute

—Route planning and selection
—Vehicle operation
—Procedures at stops
—Detours and use of alternate routes

Communications

—Equipment operation
—Status reporting
—Contacts with law enforcement units
—Communications discipline
—Procedures for reporting incidents

Radiological Considerations

—Description of the radioactive cargo
—Function and characteristics of the shipping casks
—Radiation hazards
—Federal, State and local ordinances relative to the shipment of radioactive materials
—Responsible agencies

Response to Contingencies

—Accidents
—Severe weather conditions
—Vehicle breakdown
—Communications problems
—Radioactive "spills"
—Use of special equipment (flares, emergency lighting, etc.)

Response to Threats

—Reporting
—Calling for assistance
—Use of immobilization features
—Hostage situations
—Avoiding suspicious situations

45 FR 37410

The licensee is also required to assure that armed individuals serving as shipment escorts, other than members of local law enforcement agencies, have completed a weapons training and qualifications program equivalent to that required of guards, as described in III and IV of Appendix B of this part, to assure that each such individual is fully qualified to use weapons assigned him.

50 FR 12221

Appendix E—Levels of Physical Protection To Be Applied in International Transport of Nuclear Material [1]

(Verbatim from Annex I to The Convention on the Physical Protection of Nuclear Material)

(a) Levels of physical protection for nuclear material during storage incidental to international nuclear transport include:

(1) For Category III materials, storage within an area to which access is controlled;

(2) For Category II materials, storage within an area under constant surveillance by guards or electronic devices, surrounded by a physical barrier with a limited number of points of entry under appropriate control or any area with an equivalent level of physical protection;

(3) For Category I material, storage within a protected area as defined for Category II, to which, in addition, access is restricted to persons whose trustworthiness has been determined, and which is under surveillance by guards who are in close communication with appropriate response forces. Specific measures taken in this context should have as their object the detection and prevention of any assault, unauthorized access, or unauthorized removal of material.

(b) Levels of physical protection for nuclear material during international transport include:

(1) For Categories II and III materials, transportation shall take place under special precautions including prior arrangements among sender, receiver, and carrier, and prior agreement between natural or legal persons subject to the jurisdiction and regulation of exporting and importing States, specifying time, place and procedures for transferring transport responsibility;

(2) For Category I materials, transportation shall take place under special precautions identified for transportation of Categories II and III materials, and in addition, under constant surveillance by escorts and under conditions which assure close communication with appropriate response forces;

(3) For natural uranium other than in the form of ore or ore residue, transportation protection for quantities exceeding 500 kilograms U shall include advance notification of shipment specifying mode of transport, expected time of arrival and [shall provide for] confirmation of receipt of shipment.

Appendix F—Nations That Are Parties to the Convention on the Physical Protection of Nuclear Material [2]

Nation	Date of deposit of instrument of ratification with the IAEA
Bulgaria	Apr. 10, 1984
Czechoslovakia	Apr. 23, 1982
German Democratic Republic (E. Germany)	Feb. 5, 1981
Hungary	May 4, 1984
Korea, Republic of	Apr. 7, 1982
Paraguay	Feb. 6, 1985
Philippines	Sept. 22, 1981
Poland	Oct. 5, 1983
Sweden	Aug. 1, 1980
Union of Soviet Socialist Republics	May 25, 1983
United States of America	Dec. 13, 1982

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[1] See Appendix C to Part 110 of this chapter for the physical description of the categories of nuclear material as set forth in Annex I to the Convention. For the purposes of this part, the following categories of nuclear material are synonymous:

Category I is a formula quantity of strategic special nuclear material;

Category II is special nuclear material of moderate strategic significance. Other fuel which by virtue of its original fissile material content is classified as Categories I and II before irradiation may be reduced one category level while the radiation level from the fuel exceeds 100 rads/hour at one meter unshielded; and

Category III is special nuclear material of low strategic significance.

[2] Once the Convention enters into force, an updated list of party nations will appear annually in the Department of State's publication, Treaties in Force. Appendix F will be amended as required to maintain its currency.

UNITED STATES NUCLEAR REGULATORY COMMISSION
RULES and REGULATIONS
TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 73
PHYSICAL PROTECTION OF PLANTS AND MATERIALS

PROPOSED RULE MAKING

39 FR 40036
Published 11/13/74
Comment Period expires 12/13/74

[10 CFR Part 73]

PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Physical Protection of Special Nuclear Material in Transit

In view of the need for increased protection of special nuclear material (SNM) in the interest of the common defense and security, the Atomic Energy Commission is proposing amendments to its regulations in 10 CFR Part 73, "Physical Protection of Plants and Materials," which would provide for an increased level of physical protection for shipments by licensees of special nuclear material of high strategic value. This action is being taken in view of the increase in terrorist activities and the general availability of information concerning possible use of special nuclear material as a basis of terrorist activities.

The proposed amendments would apply to shipments of either uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope) uranium-233, or plutonium, or any combination of these materials, which is 5,000 grams or more computed by the formula, grams=(grams contained U-235)+2.5 (grams U-233+grams plutonium).

The proposed amendments would require that shipment by road be made either in a truck or trailer with special design features to improve cargo security containing at least two armed guards accompanied by a separate escort vehicle with at least two armed guards, or that an armored car be used accompanied by two separate escort vehicles each containing two armed guards (total of six guards) when communication is not always available during the course of the shipment because of inadequate communication range, or that an armored car containing at least two armed guards be used accompanied by one escort vehicle with at least two armed guards when communication coverage is always available during the course of the shipment.

Other proposed changes would require (1) two armed guards to escort all air and sea shipments, (2) five armed guards to escort rail shipments, (3) use of U.S. registered carriers only for air and sea shipments, (4) two armed guards to monitor transfers, (5) seals at all times on cargo compartments of trucks or the outermost container of SNM, (6) open railroad cars only when the shipment weighs 5,000 pounds or more, and (7) submission of a revised plan updating existing transportation plans by licensees who ship at or above 10 CFR 73 threshold quantities and through licensees by carriers who supply transportation services. The Commission is considering alternatives which would discontinue the armored car option and would allow only shipment via specially designed truck with an escort vehicle. Also, alternatives to implement a continuous communication network for truck and rail shipments are being examined. It is expected that these measures could be required early in 1976.

The Commission has decided not to prepare an environmental impact statement for the proposed amendments to 10 CFR Part 73. Concurrently with the publication of this notice of proposed rule making, the Commission is making available in its Public Document Room at 1717 H Street NW., Washington, D.C. its "Environmental Impact Appraisal of Amendments to 10 CFR Part 73, Require for the Physical Protection of Strategic Nuclear Materials in Transit".

Pursuant to the Atomic Energy Act of 1954, as amended, and section 553 of title 5 of the United States Code, notice is hereby given that adoption of the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 73 is contemplated. All interested persons who wish to submit written comments or suggestions for consideration in connection with the proposed amendments should send them to the Secretary of the Commission, U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Docketing and Service Section by December 13, 1974. Copies of Comments on the proposed amendments may be examined at the Commission's Public Document Room at 1717 H Street NW, Washington, D.C.

1. Paragraph (g) is deleted and paragraphs (c) and (e) of § 73.30 are amended to read as follows:

§ 73.30 General requirements.

* * * * *

(c) Special nuclear material shall be shipped in containers which are sealed by tamper indicating type seals. The container shall also be locked if it is not in another container or vehicle which is locked. The outermost container or vehicle shall also be sealed by tamper indicating type seals. Only containers weighing 5,000 pounds or more shall be shipped in open railroad cars. This paragraph does not apply to shipments of quantities specified in § 73.1(b)(3).

* * * * *

(e) By (sixty days after publication) each licensee who has previously submitted a plan to ship quantities of special nuclear material in excess of those specified in § 73.1(b)(2) shall update his plan outlining the procedures that will be used to meet the new requirements of §§ 73.30(c), 73.31(c), 73.32 (b) and (c), 73.33(a), 73.34 (a), (b) and (c), and 73.35 (a) and (b).

* * * * *

2. Paragraph (f) is deleted and paragraph (c) of § 73.31 is amended to read as follows:

§ 73.31 Shipment by road.

* * * * *

(c) A shipment shall be accompanied by at least two guards in the vehicle containing the shipment. The shipment shall be further protected by one of the following methods:

(1) The shipment shall be made in a specially designed truck or trailer which reduces the vulnerability to theft. Design features of the truck or trailer shall permit immobilization of the van and provide barriers or deterrents to physical penetration of the cargo compartment. A separate escort vehicle, with at least two guards shall accompany the shipment. Guards shall maintain continuous vigilance for the presence of conditions or situations which might threaten the security of the shipment, take such action as circumstances might require to avoid interference with continuous safe passage of the cargo vehicle, provide assistance to, or summon aid for crew of cargo vehicles in case of emergency, check seals and locks at each stop where time permits, and observe the cargo vehicle and adjacent areas during stops. The vehicle containing the shipment shall be under continuous visual surveillance by at least two guards during rest stops. Continuous

radio communication capability shall be provided between the cargo vehicle and the escort vehicles. Escort vehicles shall also be equipped with a radiotelephone. The licensee may use his own employees as guards or he may use an agent.

(2) The shipment shall be made in an armored car accompanied by two separate escort vehicles with at least two guards in each vehicle when the ability to communicate by radiotelephone or radio is not always available during the course of the shipment because of inadequate communication range. When communication coverage is always available during the course of the shipment, armored car shipments may be made with only one separate escort vehicle containing at least two guards. The escorts' duties shall be the same as those specified in § 73.31(c)(1).

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3. Paragraph (d) is deleted and paragraphs (b) and (c) of § 73.32 are amended to read as follows:

§ 73.32 Shipment by air.

* * * * *

(b) Shipments on cargo aircraft of either uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233 or plutonium, or any combination of these materials which is 5,000 grams or more computed by the formula, grams=(grams contained U-235)+2.5 (grams U-233+grams plutonium) shall be made only on U.S. registered aircraft and shall be accompanied by two guards. Transfers of these shipments shall be minimized and shall be conducted in accordance with § 73.35.

(c) Export shipments shall be accompanied by two guards from the last terminal in the United States until the shipment is unloaded at a foreign terminal. They shall perform monitoring duties at foreign terminals as described in § 73.35, except that such guards need not be armed at foreign terminals.

4. Paragraph (c) is deleted and paragraph (a) of § 73.33 is amended to read as follows:

§ 73.33 Shipment by rail.

(a) A shipment by rail shall be escorted by five guards, in the shipment car or an escort car of the train, who shall keep the shipment cars under observation and who shall detrain at stops when practicable and time permits to guard the shipment cars under observation and check car or container locks and seals. Radiotelephone communication shall be maintained with a licensee or his agent to relay position every 2 hours or less, and at scheduled stops in the event that radiotelephone coverage was not available in the last 5 hours before the stop. The licensee or agent with whom communications shall be maintained for different segments of the shipment shall be predesignated before a shipment is made. In the event no call is received in accordance with these requirements, the licensee or his agent shall immediately notify an appropriate law enforcement authority and the appropriate Atomic Energy Commission Regulatory Operations Regional Office listed in Appendix A of this part.

* * * *

5. Paragraph (e) is deleted and paragraphs (a), (b), and (c) of § 73.34 are amended to read as follows:

§ 73.34 Shipment by sea.

(a) Shipments shall be made on American flag vessels making the minimum ports of call. Transfers to and from other modes of transportation shall be in accordance with § 73.35, except that such guards need not be armed at foreign terminals.

(b) Export shipments shall be accompanied by two guards from the last port in the United States until the shipment is unloaded at a foreign port. They shall perform monitoring duties at foreign ports as described in § 73.35, except that such guards need not be armed at foreign terminals.

(c) The shipment shall be placed in a secure compartment which is locked and sealed. Locks and seals shall be periodically inspected in transit, if possible, by the two guards.

* * * * *

6. Paragraph (d) is deleted and paragraphs (a) and (b) of § 73.35 are amended to read as follows:

§ 73.35 Transfer of special nuclear material.

All transfers shall be monitored by two guards. Monitoring of special nuclear material transfers shall be conducted as follows:

(a) At scheduled intermediate stops where special nuclear material is not scheduled for transfer, the guards shall observe the opening of the cargo compartment and assure that the shipment is not removed. The guards shall maintain continuous visual surveillance of the cargo compartment. Continuous visual surveillance of the cargo compartment shall be maintained up to the time the vehicle is ready to depart.

(b) At points where special nuclear material is transferred from vehicle to storage, from one vehicle to another, or from storage to a vehicle, the guards shall keep the shipment under continuous visual surveillance by observing the opening of the cargo compartment of the incoming vehicle and assuring that the shipment is complete by checking locks and/or seals. Continuous visual surveillance of a shipment shall be maintained at all times it is in the terminal or in storage. Shipments shall be preplanned in order to avoid storage times in excess of 24 hours. Continuous visual surveillance of the cargo compartment shall be maintained up to the time the vehicle is ready to depart from the terminal.

(next page is 73-PR-4)

45FR15937
Published 3/12/80
Comment period expires 5/12/80

10 CFR Part 73

Physical Protection of Plants and Materials; Access Controls to Nuclear Powerplant Vital Areas

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Commission is considering amendments to its regulations to define more clearly the cirteria for personnel access controls for nuclear powerplant vital areas. The controls would be, for the most part, procedural in scope and would require that (1) access authorization to a vital area be correlated to the need to have access to that area during a particular time period, (2) individuals granted access to particular types of vital areas will be issued a serially numbered badge that displays a visible code indicating the level of access granted corresponding to the associated types of vital areas designated in the security plan, and (3) licensee procedures and/or equipment be used to assure that only the authorized individual can gain unescorted entry to a vital area on his/her authorization.

DATES: Comments must be received on or before May 12, 1980.

ADDRESSES: Comments or suggestions for consideration in connection with the proposed amendments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch. Copies of comments received may be examined at the Commission's Public Document Room at 1717 H Street, NW, Washington, DC.

FOR FURTHER INFORMATION CONTACT: T. S. Michaels, Safeguards Standards Branch, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, DC 20555, 301–443–5903.

SUPPPLEMENTARY INFORMATION: The requirements for access controls at vital areas of nuclear powerplants are in § 73.55(d)(7) of 10 CFR Part 73. Supplementary guidance in this area has been developed and made available to licensees. This includes Acceptance Criterion 5.B of the Security Plan Evaluation Report (SPER) Workbook, Office of Nuclear Reactor Regulation (NRR) Review Guideline #21, and NRR Review Guideline #23. Also, NRR, in meetings with licensees in March 1977, to explain § 73.55 and provide information on what an acceptable security plan should contain, explained that positive control of access to a vital area consisted of two elements: first, in order to be authorized access to a particular vital area, the person requesting entry must have had the necessary background screening and have an established need to perform job-related functions in the area, and second, that there be a need to enter the vital area to perform a specific function at a specific time.

In the past, the determination of which individuals have had access to various vital areas has been left up to the licensee to implement within the context of the regulation and guidelines mentioned previously. Recent surveys of operating nuclear power reactors have revealed that some licensees have broadly interpreted these guidelines and have used lax criteria for authorizing individuals unescorted access to all vital areas. That is, access lists to particular vital areas have included anyone who might need unescorted access to that area regardless of the frequency or duration of the need. This was not the intent of the regulations or guidelines.

In order to define more clearly the criteria for vital area access controls and to put them into the codified regulations it is proposed to revise § 73.55(d)(7) and other applicable sections along the following general guidelines: (1) Access to a vital area will be correlated to the need to have access to that area, and also will be limited to the particular time period that access is needed. (2) Individuals granted access to particular types of vital areas will be issued a serially numbered badge that displays a visible code indicating the level of access granted corresponding to the associated types of vital areas designated in the security plan. (3) Licensee procedures and/or equipment will be made available to assure that only the authorized individual can gain unescorted entry to a vital area on his/her key, key card, or other entry mechanism.

The amendments being proposed are essentially those that the Commission intended licensees to implement through present regulations and existing guidance. The present regulations, however, are not sufficiently specific as to their intent. The proposed regulation would provide the needed degree of specificity.

The criteria being proposed are essentially those contained in a Nuclear Regulatory Commission Inspection and Enforcement Bulletin, IE Bulletin No. 79-16, "Vital Area Access Control" issued July 26, 1979. One criterion in IE Bulletin No. 79-16 not included in the proposed amendments is that having to do with trustworthiness of employees, i.e., a screening program meeting American National Standards Institute (ANSI) Standard, ANSI 18.17, Industrial Security for Nuclear Powerplants. This criterion is not included in the proposed amendments because the Commission has under consideration, in another rulemaking proceeding, both a proposed material access authorization rule and alternative programs for establishing trustworthiness of employees at nuclear powerplants.

10 CFR 73.55(g) is also being amended to include access control equipment and all other security-related devices or equipment under the testing and maintenance requirement.

It is expected that the changes resulting from the amendments would be largely procedural, which the licensee can implement without a major modification of the security or contingency plan. However, plans would need some revising to include the new requirements. These revisions would be handled as changes that "do not decrease the safeguards effectiveness of the plan" and, in accordance with 10 CFR 50.54(p) must be submitted to the NRC within 2 months after the revisions are made.

The amendments, if approved, would become effective 75 days after publication in the **Federal Register**.

The promulgation of the amendment would not result in any activity that affects the environment. Accordingly, the Commission has determined under the National Environmental Policy Act, the Council of Environmental Quality guidelines, and the criteria of 10 CFR 51.5(d)(3), that neither an environmental impact statement or environmental impact appraisal to support a negative declaration for the proposed amendments to 10 CFR Part 73 is required.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and section 553 of Title 5 of the United States Code, notice is hereby given that adoption of the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 73 is contemplated.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

1. Section 73.55(d)(7) and (g) of 10 CFR Part 73 is amended to read as follows:

§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against industrial sabotage.

* * * * *

(d) * * *

(7) The licensee shall positively control all points of personnel and vehicle access into vital areas. Access to vital areas shall be limited to individuals with access authorization and with a need to enter the vital area based upon assigned duties requiring the performance of tasks in the vital area. Unoccupied vital areas shall be locked and protected by an active intrusion alarm system. The access authorization system shall incorporate the following procedures:

(i) Access lists shall be established and approved for each vital area by the onsite individual responsible for security (or equivalent) or his designated representative. Approved access areas and the duration of access shall be commensurate with the tasks to be performed. To remove the names of individuals who no longer have a need for access, access lists shall be reviewed, updated and reapproved at the end of each access duration period not to exceed 31 days.

(ii) Each individual granted access to vital areas shall be issued a serially numbered badge that displays a visible code which indicates the level of access granted corresponding to the associated types of vital areas designated in the security plan.

(iii) Emergency access lists shall be established and approved for each vital area by the onsite individual responsible for security (or equivalent) or his designated representative. Access controls and written procedures to cope with emergency conditions shall be established.

(iv) Licensee procedures and/or equipment shall be established to assure that only the authorized individual can gain unescorted entry to a vital area on his/her key, key card, or other entry mechanism.

* * * * *

(g) *Testing and maintenance.* Each licensee shall test and maintain intrusion alarms, emergency alarms, access control equipment, communications equipment, physical barriers, and all other security-related devices or equipment utilized pursuant to this section, as follows:

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45 FR 79492
Published 12/1/80
Comment period expires 1/15/81

10 CFR Part 73

Searches of Individuals at Power Reactor Facilities

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission proposes to amend its regulations to clarify requirements for searches of individuals at power reactor facilities protected area entry portals. The amendment would require searches similar to those used on an interim basis at power reactors prior to November 1, 1980, including mandatory use of search equipment, and the pat-down search of visitors to nuclear power plants.

DATES: Comments must be received by January 15, 1981.

ADDRESSES: Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Attention: Docketing and Service Branch. Copies of comments received may be examined at the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: L. J. Evans, Jr., Chief, Regulatory Improvements Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 427-4181.

SUPPLEMENTARY INFORMATION: The Commission proposes to amend § 73.55 to adopt final requirements for searches of individuals at power reactor protected area entry portals.

Since April of 1977, power reactor licensees have generally conformed to interim search procedures which were developed as an alternative to routine 100% pat-down search of all employees. The Commission has deferred implementation of routine pat-down searches of employees, and certain other measures pending its decision on a program to help assure the trustworthiness of individuals at nuclear power plants and the evaluation of possible alternative measures (see 44 FR 65969). The Commission has since directed that an industry administered pre-employment screening program be developed along the lines recommended by the Hearing Board in the Clearance Rule proceeding.

The Commission's goal in this regard is to increase the assurance that power reactors are adequately protected against sabotage by an insider. Based on the fact that a screening program is under development, and its experience with the interim search procedures, the Commission is now prepared to adopt final search procedures for power reactor facilities. The Commission has decided that mandatory equipment-oriented searches augmented by pat-down searches under certain conditions, are an acceptable alternative to routine pat-down searches of all employees. The Commission has also decided to eliminate the term "well-grounded" (now found in 10 CFR 73.55) when referring to the suspicion a licensee must have before performing a pat-down search on a suspect individual. Because of the vagueness of the term it has been found to be impracticable to implement that aspect of the search requirement on a day to day basis. The Commission is also issuing an immediately effective extension to the current relief from pat-down searches in § 73.55 until 60 days after approval of security plan amendments that define how the final search requirements will be met, in order to accommodate the rulemaking procedure for this proposed amendment.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Section 553 of Title 5 of the United States Code, notice is hereby given that adoption of the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 73, is contemplated.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

1. Section 73.55(d)(1) is revised to read as follows:

§ 73.55 [Amended]

* * * * *

(d)(1) Access requirements. The licensee shall control all points of personnel and vehicle access into a protected area to ensure that only authorized individuals, vehicles, and materials enter. Identification and search of all individuals must be made and authorization must be checked at those points. Except as otherwise provided in this paragraph, the search function for detection of firearms, explosives, and incendiary devices is to be accomplished through the use of both firearms and explosive detection equipment capable of detecting those devices. In addition to the searches set forth above, the licensee shall conduct a physical pat-down search of all visitors who require access to the protected area. When the licensee has cause to suspect that an individual is attempting to introduce firearms, explosives, or incendiary devices into the protected area, the licensee shall conduct a physical pat-down search on that individual. Whenever firearms or explosive detection equipment is out of service or not operating satisfactorily, the licensee shall conduct a physical pat-down search of all persons who have not been properly searched by that equipment prior to their entry into the protected area. The individual responsible for the last access control function (controlling admission to the protected area) shall be isolated within a bullet-resisting structure as described in paragraph (c)(6) of this section to assure that individual's ability to respond or to summon assistance. By (45 days from the effect date of this amendment), each licensee shall submit proposed amendments to his security plan which define how the amended search requirements of this paragraph will be met. The amended search requirements of this paragraph are to be implemented by the licensee within 60 days after Commission approval of the proposed security plan amendments.

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46 FR 46333

Published 9/18/81

Comments must be received on or before 11/17/81. Comments received after that date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before that date.

10 CFR Parts 50, 70, and 73

Safeguards Requirements for Nonpower Reactor Facilities Authorized to Possess Formula Quantities of Strategic Special Nuclear Material

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission is considering amendments to its physical protection regulations for nonpower reactor facilities authorized to possess formula quantities of strategic special nuclear material. The amendments would provide as a minimum that these facilities be protected at the level required for special nuclear material of moderate strategic significance, regardless of the amount of strategic special nuclear material for which the licensee would otherwise have been exempted because of an external radiation dose rate in excess of 100 rem per hour at 3 feet. These amendments would also require additional physical protection measures against theft of special nuclear material, beyond the minimum level, when the amount of possessed strategic special nuclear material having a radiation dose rate below the exemption level equals or exceeds a formula quantity.

DATES: Comments must be received on or before November 17, 1981. Comments received after that date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before that date.

ADDRESSES: Comments or suggestions for consideration in connection with the proposed amendments should be sent to the Secretary of the Commission, Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Comments may also be delivered to Room 1121, 1717 H Street, N.W., Washington, D.C. Comments received will be available for examination and copying at the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: Mr. C. K. Nulsen, Regulatory Improvements Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (301-427-4181).

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission is considering amendments to its physical protection regulations for nonpower reactor facility licensees authorized to possess a formula quantity or more of strategic special nuclear material (SSNM). The amendments would replace existing interim requirements for the physical protection of these facilities now set forth at 10 CFR 73.60. Some nonpower reactor operators, although they may possess formula quantities of SSNM, currently would be required to provide only minimal physical protection for this material since some of their material typically is irradiated to a level which would qualify them for exemption under § 73.67(b)(1)(i). The exemption is based on the deterrent effect of an external radiation dose rate in excess of 100 rem per hour at 3 feet from any accessible surface without intervening shielding.

The amendments would require nonpower reactor licensees authorized to possess formula quantities of strategic special nuclear material to protect the material they possess at least at the level prescribed in § 73.67(d) for special nuclear material (SNM) of moderate strategic significance. This requirement would apply regardless of what portion of the material possessed is irradiated in excess of the 100 rem/h external radiation dose rate level. The amendments also require that additional physical protection measures, specified in a new paragraph, § 73.67(h), be provided during periods when the amount of SSNM possessed having an external dose rate not exceeding the 100 rem/h level equals or exceeds a formula quantity. The additional measures are designed to provide the affected nonpower reactor facilities with a level of protection comparable to that provided for formula quantities of SSNM at fuel cycle facilities, while taking advantage of a number of specific facility and fuel design features that collectively offer inherent protection against theft.

At most of the nonpower reactor facilities that would be affected by the proposed amendments, the external radiation dose rate for SSNM used as reactor fuel is kept sufficiently high to allow the facility to be protected continuously at the level required for SNM of moderate strategic significance. Only rarely would the external radiation dose rate of the fuel drop sufficiently to require the additional physical protection measures described in the proposed § 73.67(h). These periods can be anticipated by the licensee, permitting sufficient time for the required additional physical protection measures to be implemented.

Nonpower reactors possessing formula quantities of SSNM previously had been designated as facilities requiring protection for SNM of moderate strategic significance, but also were required to provide a set of additional physical protection measures specified in § 73.60, on an interim basis [44 FR 68199], until several technical issues could be resolved to determine the level of physical protection appropriate for these facilities. The issues which were examined are discussed below.

Technical Basis for Radiation Dose Rate Exemption Level

The existing exemption level, 100 rem/h at 3 feet from any accessible surface without intervening shielding, was found to be appropriate and is not changed. The Commission has determined that it is appropriate to allow credit towards safeguards based upon radiation levels due to the deterrent quality of nuclear radiation and the adversaries' difficulty in accurately determining irradiation levels. The current exemption level, which is internationally accepted, does not, however, preclude the possibility of a dedicated adversary, heedless of the subsequent effects of the radiation exposure, successfully removing a formula quantity of SSNM from a nonpower reactor facility before being physically incapacitated by the radiation effects. For this reason, it is considered prudent to require that the minimum level of physical protection provided for these nonpower reactor facilities be the same as that for SNM of moderate strategic significance, regardless of the amount of SSNM possessed which is irradiated beyond the 100 rem/h at 3 feet level.

Safeguards Credit for Design Features

The staff considered the feasibility of allowing safeguards credit for unique design features of reactors and fuel types under study. The following conclusions were reached: (a) A TRIGA FLIP type fuel cluster may be considered a discrete unit in determining external radiation dose rates for exemption purposes; (b) some safeguards credit can be given for the use of TRIGA FLIP type fuel because reprocessing difficulties make it an undesirable theft target; (c) some safeguards credit can be given for the use of MTR plate-type fuel, but to a lesser degree than for TRIGA FLIP type fuel; (d) some safeguards credit can be given for the design of the Argonaut and tank-type reactors because of the difficulty in gaining access to the reactor core; (e) some safeguards credit can be given for the design of open pool-type reactors because of the difficulty in removing fuel from the pool, but to a lesser degree than for the Argonaut and tank-type reactors. Based upon these considerations, the Commission has determined that the additional physical protection requirements included in § 73.67(h) of the proposed amendments would provide for a level of protection comparable to that required for formula quantities of SSNM at fuel cycle facilities. It would be less burdensome for NPR licensees to implement these physical protection requirements than to implement the same requirements that fuel cycle facilities possessing formula quantities must implement.

Contiguous Sites

The Commission has also determined that if two sites at one facility are to be considered noncontiguous they should be in separate structures and have separate and redundant physical security systems. The licensees that originally informally requested that their facilities be considered as two separate noncontiguous Category II sites either withdrew their requests or reduced their holdings below a formula quantity.

The determinations and conclusions noted above have been used in the development of the proposed amendments. These amendments have as their objective reducing the risk of theft of a formula quantity of SSNM, and thus reducing the risk to the public health and safety. The licensees are required to maintain at all times a capability for implementing the additional physical protection measures specified in new paragraph 73.67(h). They are not required, however, to implement them unless they possess a formula quantity of SSNM with radiation dose rates below the 100 rem/h exemption level. For all except one licensee, this would occur only under unusual circumstances which prevented the licensee from maintaining a normal irradiation operating schedule. The specific additional measures required include: (1) additional physical barriers around the SSNM; (2) improved intrusion and radiation detection capabilities; (3) a two-person occupancy rule for controlled access areas where the material is used and stored; (4) exit searches; (5) requirements for redundancy in communications; (6) 48-hour advance notice by the licensee to the NRC when it is expected the additional requirements will need to be implemented; and (7) coordination of local law enforcement agency (LLEA) response times and physical security system capabilities to assure offsite response forces will arrive before a formula quantity of SSNM can be removed.

Several nonsubstantive clarifying amendments to the currently effective Parts 50, 70, and 73 are also proposed. These amendments do not modify current practices or applications of the regulations, but will clarify the text of several sections.

The Commission endorsed the approach in the proposed rule based on several considerations. The Commission acknowledges that the existing exemption level, 100 rem/hr at three feet, is not an incapacitating dose rate, but serves as a deterrent to theft. In addition, the Commission believes that this dose rate will be a significant deterrent to the processing of the material for use as a weapon particularly recognizing the small quantities of material present at these reactors and the inherent difficulty in preprocessing the TRIGA and MTR plate-type fuel used in nonpower reactors. However, the Commission also has considered this dose rate in view of the ALARA principle and believes that higher dose rates would encourage reactor operation simply to meet the regulatory exemption level. This is against the ALARA principle in that reactors might be operated at radiation levels higher than necessary.

Commissioners Gilinsky and Bradford favor an alternative approach and would like public comment on it. The Commission does not object to their requesting such comments, but because the Commission does not endorse the alternative, comments in support of that proposal will not form a basis for adopting a final rule without another round of comment. Commentators desiring to influence the Commission to adopt this alternative are therefore advised to frame their views as negative comment on the Commission proposal.

The approach favored by Commissioners Gilinsky and Bradford would require all nonpower reactors that possess in excess of 5 kilograms of highly enriched uranium fuel to implement the safeguards upgrade rule. An exemption from this requirement would be provided if the fuel emits external radiation at a rate that would produce a dose greater than 2000 rem per hour at 3 feet, a level at which the fuel is considered to be self-protecting.

This approach is more consistent with the present protection requirements for highly enriched uranium than the Commission's approach in that significant quantities of unirradiated highly enriched uranium fuel would be treated in the same way, whether they were at a fuel cycle plant or at a university.

The 100 rem/hr at 3 feet exemption level contained in the Commission proposal does not, in fact, provide self-protection to the fuel. Rather, as a study performed by Los Alamos Scientific Laboratory (LASL) for the staff clearly states,[1] 100 rem/hr is not great enough to impair the actions of the group attempting theft. The study concludes that for an incapacitating dose (to individuals attempting to remove the fuel from the facility), the dose rate per element must reach at least several thousand rem per hour at 3 feet.

Finally, Commissioners Gilinsky and Bradford note that a severe protection regime would not be necessary at university and other research reactors if these reactors switched to fuels using lower enrichment uranium which cannot be used to make weapons. That in their view is the best course.

Separate Views of Commissioner Bradford on the Proposed Rule on Physical Security Requirements for Nonpower Reactor Licensees Authorized to Posses Formula Quantities of Strategic Special Nuclear Material

I am concerned with both the substance and the procedure of this Commission action. Substantively, it is a serious error to contemplate a long-term arrangement under which highly enriched uranium at university reactors might be afforded less protection than the same material elsewhere. There is nothing about a university environment that is inherently any safer than the rest of the nation as a location for material that can be directly used in the making of nuclear bombs. This material has that extraordinary potential, and the commission should be seeking comment on a rule that protects it uniformly wherever it might be stolen.

As a procedural matter, this is the first rulemaking that I can recall in which the Commission has declined to seek comment on positions encompassing the full range of views among the Commissioners. Despite staff studies suggesting required external radiation dose rate levels up to 3,000 rem per hour, the only number being proposed for comment is 100 rem per hour. While the public is, of course, still free to urge a significantly higher level of protection than that proposed here, the nonpower reactor operators are not given notice that this rulemaking might end in such a result. It would have been far better to invite comment on a range as possible exposure standards and protection formats, indicating if necessary a Commission preference as of now for the lower end of the range. This would have avoided the suggestion that a particular type of reactor owner is being unduly favored and would have preserved the Commission's valuable past practice of seeking comment on each of the courses of action that we might follow.

Paperwork Reduction Statement

The Nuclear Regulatory Commission has submitted this proposed rule to the Office of Management and Budget for such review as may be appropriate under the Paperwork Reduction Act, P.L. 96–511. The SF–83, "Request for Clearance," Supporting Statement, and other related documentation submitted to OMB have been placed in the Public Document Room at 1717 H St., N.W., Washington, DC 20555 for inspection and copying for a fee.

Regulatory Flexibility Statement

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission hereby certifies that this rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. This proposed rule would amend 10 CFR Part 73 to require any nonpower reactor licensee authorized to possess a formula quantity of strategic special nuclear material (SSNM) to submit amendments to their physical security plans. These plans would include certain additional security precautions that would be implemented when a sufficient amount of the licensee's irradiated fuel drops below the 100 rem/h at 3 feet external radiation dose rate exemption level resulting in the licensee possessing a formula quantity of nonself-protecting fuel. At this time the proposed amendments would require only 15 licensees to submit revised security plans, and only one nonpower reactor licensee would probably implement the additional security measures at a cost of less than $3000. The amendment probably would not affect any future licensees since they would not build a nonpower reactor requiring a formula quantity of SSNM.

The 15 licensees include three large companies (Union Carbide Corp., General Atomic Corp.—a subsidiary of Gulf Corp., and General Electric Corp.), ten major universities (Georgia Tech, University of Wisconsin, Massachusetts Institute of Technology, University of Michigan, University of Virginia, Oregon State University, Virginia Polytechnic Institute, Texas A&M, University of Missouri at Columbia, and Washington State University), the National Bureau o Standards (NBS), and the Rhode Island Atomic Energy Commission. The three corporations each employ in excess of 500 employees and have annual sales i excess of $1 million. The ten universities each employ in excess of 500 persons and have annual revenues in excess of $1 million for services they provide. NBS and the Rhode Island Atomic Energy Commission are Federal and state agencies, respectively. None of these affected licensees fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or the Small Business Size Standards in regulations issued by the Small Business Administration at 13 CFR Part 21.

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[1] *Special Nuclear Material Self-Protection Criteria Investigation, Phases I and II*, Los Alamos Scientific Laboratory, Los Alamos, New Mexico, (J. J. Kioelling, E. W. Barts), December 22, 1980.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, notice is hereby given that adoption of the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 50, 70 and 73 is contemplated.

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 is revised to read as follows:

Authority: Secs. 103, 104, 161, 182, 183, 189, 68 Stat. 936, 937, 948, 953, 954, 955, 956, as amended (42 U.S.C. 2133, 2134, 2201, 2232, 2233, 2239); secs. 201, 202, 206, 88 Stat. 1243, 1244, 1246 (42 U.S.C. 5841, 5842, 5846), unless otherwise noted. Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80–50.81 also issued under sec. 184, 68 Stat. 954, as amended; (42 U.S.C. 2234). Sections 50.100–50.102 issued under sec. 186, 68 Stat. 955; (42 U.S.C. 2236). For the purposes of sec. 223, 68 Stat. 958, as amended; (42 U.S.C. 2273), § 50.54(i) issued under sec. 161i, 68 Stat. 949; (42 U.S.C. 2201(i)), §§ 50.70, 50.71 and 50.78 issued under sec. 161o, 68 Stat. 950, as amended; (42 U.S.C. 2201(o)) and the laws referred to in Appendices.

2. Paragraphs (c) and (d) of § 50.34 are revised to read as follows:

§ 50.34 Contents of applications; technical information.

* * * * *

(c) *Physical security plan.* Each application for a license to operate a production or utilization facility must include a physical security plan.

(1) For production and utilization facilities other than nonpower reactor facilities, the plan must consist of two parts. Part I must address vital equipment, vital areas, and isolation zones, and must demonstrate how the applicant plans to comply with the requirements of Part 73 of this chapter, as appropriate, at the proposed facility. Part II must list tests, inspections, and other means to be used to demonstrate compliance with these requirements, as appropriate.

(2) For nonpower reactor facilities, the plan must demonstrate how the applicant plans to comply with the requirements of Part 73 of this chapter, as appropriate, at the proposed facility, and include tests, inspections, and other means to be used to demonstrate compliance with these requirements.

(d) *Safeguards contingency plan.* Each application for a license to operate a production or utilization facility subject to § 73.50 or § 73.55 of this chapter must include a licensee safeguards contingency plan in accordance with the criteria set forth in Appendix C to Part 73 of this chapter. The safeguards contingency plan must include plans for dealing with threats, thefts, and radiological sabotage, as defined in Part 73 of this chapter, relating to the special nuclear material and nuclear facilities licensed under this chapter and in the applicant's possession and control. Each licensee's application must include the information contained in the applicant's safeguards contingency plan, as set forth in Appendix C to Part 73 of this chapter in the categories of Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix. The fifth category of information, Procedures, does not have to be submitted for approval.[5]

PART 70—DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL

3. The authority citation for Part 70 is revised to read as follows:

Authority: Secs. 51, 53, 161, 182, 183, 68 Stat. 929, 930, as amended, 948, as amended, 953, as amended, 954 (42 U.S.C. 2071, 2073, 2201, 2232, 2233); secs. 202, 206, 88 Stat. 1244, 1246 (42 U.S.C. 5842, 5846) unless otherwise noted.

For the purposes of Sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273), §§ 70.3, 70.19(c), 70.21(c), 70.22(a), (b), (d)–(k), 70.24(a) and (b), 70.32(a)(3), (5), and (i), 70.36, 70.39(b) and (c), 70.41(a), 70.42(a) and (c), 70.56, are issued under Sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 70.20a(d), 70.32(a)(6), (c), (d), (e) and (g), 70.36, 70.51(c)–(g), 70.56, 70.57(b) and (d), 70.58(a)–(g)(3) and (h)–(j), and 70.81–89 are issued under Sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 70.32(h), 70.51(b) and (i), 70.52, 70.53, 70.54, 70.55, 70.58(g)(4), (k) and (l), 70.59, are issued under Sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

4. Paragraphs (h) and (k) of § 70.22 are revised to read as follows:

§ 70.22 Contents of applications.

* * * * *

(h) Each application for a license to possess or use a formula quantity of strategic special nuclear material, as defined in paragraph (bb) of § 73.2 of this chapter, at any site or contiguous sites subject to control by the licensee, must include a physical security plan consisting of two parts. Part I must address vital equipment, vital areas, and isolation zones, and must demonstrate how the applicant plans to meet the requirements of §§ 73.20, 73.40, 73.45, 73.46, 73.50, 73.70, and 73.71 of this chapter in the conduct of the activity to be licensed. Part II must list tests, inspections, and other means to demonstrate compliance with these requirements. These requirements do not apply to a license for possession or use of this material in the operation of a nuclear reactor licensed pursuant to Part 50 of this chapter.

* * * * *

(k) Each application for a license to possess or use a formula quantity of strategic special nuclear material for use in the operation of a nonpower reactor, special nuclear material of moderate strategic significance, or 10 kg or more of special nuclear material of low strategic significance, as defined, respectively, under paragraphs (bb), (x) and (y) of § 73.2 this chapter, at any site or contiguous sites subject to control by the licensee, must include a physical security plan which demonstrates how the applicant plans to meet the requirements of paragraphs (d), (e), (f), (g), and (h), as appropriate, of § 73.67 of this chapter. These requirements do not apply to a license for possession and use of this material in the operation of a nuclear power reactor licensed pursuant to Part 50 of this chapter.

PARTS 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

5. The authority citation for Part 73 is revised to read as follows:

Authority: Secs. 53, 161b, 161i, 161o, Pub. L. 85–703, 68 Stat. 930, 948–950, as amended, Pub. L. 85–507, 72 Stat. 327, Pub. L. 88–489, Stat. 602, Pub. L. 93–377, 88 Stat. 475 (42 U.S.C. 2073, 2201); Sec. 201, Pub. L. 93–438, 88 Stat. 1242, 1243, as amended, Pub. L. 94–79, 89 Stat. 413 (42 U.S.C. 5841)

For the purposes of Sec. 223, 68 Stat. 958, as amended, 42 U.S.C. 2273, § 73.55 is issued under Sec. 161b, 68 Stat. 948, as amended, 42 U.S.C. 2201(b); §§ 73.20, 73.24, 73.25, 73.26, 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, and 73.67 are issued under Sec. 161i, 68 Stat. 949, as amended, 42 U.S.C. 2201(i); and §§ 73.20(c)(i), 73.24(b)(1), 73.26(b)(3), (h)(6), (i)(6) and (k)(4), 73.27(a) and (b), 73.40(b) and (d), 73.46(g)(6) and (h)(2), 73.50(g)(2), (3)(iii)(B) and (h), 73.55(h)(2), and (4)(iii)(B), 73.70, 73.71, and 73.72 are issued under Sec. 161o, 68 Stat. 950, as amended, 42 U.S.C. 2201(o).

6. Paragraph (e) of § 73.6 is revised to read as follows:

§ 73.6 Exemptions for certain quantities and kinds of special nuclear material.

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[5] A physical security plan that contains all the information required in both § 73.55 and Appendix C to Part 73 satisfies the requirement for a contingency plan.

(e) Special nuclear material at nonpower reactors. Any licensee subject to § 73.67(h) is not exempt from §§ 73.70 and 73.72, and any licensee subject to § 73.67(e) is not exempt from § 73.72 of this part.

§ 73.60 [Removed]

7. Section 73.60 is removed.

8. In § 73.67, paragraphs (a), (b), the introductory text of (c) and (c)(2) and (3) are revised and a new paragraph (h) is added to read as follows:

§ 73.67 Licensee fixed site and intransit requirements for the physical protection of special nuclear material of moderate and low strategic significance and of formula quantities at nonpower reactors.

(a) General performance objectives and requirements. (1) Each licensee who possesses, uses, or transports special nuclear material of moderate or low strategic significance, shall establish and maintain a physical protection system that achieves the following objectives:

(i) Minimizes the possibilities for unauthorized removal of special nuclear material consistent with the potential consequences of such actions; and

(ii) Facilitates the location and recovery of missing special nuclear material.

(2) To achieve these objectives, the physical protection system must meet the following general performance requirements:

(i) Provide early detection and assessment of unauthorized access or activities by an external adversary within controlled access areas containing special nuclear material:

(ii) Provide early detection of removal of special nuclear material by an external adversary from controlled access areas;

(b) *Exemptions.* (1) A license is exempt from the requirements of this section to the extent that the licensee possesses, uses, or transports: (i) sealed plutonium-beryllium neutron sources totaling 500 grams or less contained plutonium at any one site or contiguous sites, or (ii) plutonium with an isotopic concentration exceeding 80 percent in plutonium-238.

(2) A licensee, other than a nonpower reactor licensee authorized to possess a formula quantity or more of strategic special nuclear material, is exempt from the requirements of this section to the extent that the licensee possesses, uses, or transports: Special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

(3) A licensee, other than a nonpower reactor licensee authorized to possess a formula quantity or more of strategic special nuclear material, who has quantities of special nuclear material equivalent to special nuclear material of moderate strategic significance distributed over several buildings for each building which contains a quantity of special nuclear material less than or equal to a level of special nuclear material of low strategic significance, shall protect the material in that building at least at the level of the lower classification physical security requirements.

(c) Each licensee who possesses, uses, transports, or delivers to a carrier for transport, special nuclear material of moderate strategic significance or 10 kg or more of special nuclear material of low strategic significance, and each licensee who is authorized to possess a formula quantity of strategic special nuclear material for use in the operation of a nonpower reactor, shall:

(1) * * *

(2) Within 240 days after the effective date of these amendments or 30 days after the plan(s) submitted pursuant to paragraph (c)(1) of this section is approved, whichever is later, implement the approved security plan, and

(3) Each licensee of a nonpower reactor authorized to possess a formula quantity of strategic special nuclear material shall, in addition, (i) submit no later than 150 days after the date these amendments become effective a physical security plan or an amended physical security plan describing how the licensee will comply with all the requirements of paragraph (h) of this section, including schedules of implementation and methods used for determining external radiation dose rates of irradiated reactor fuel; and (ii) implement the approved physical security plan submitted pursuant to paragraph (c)(3)(i) of this section no later than 240 days after the date these amendments become effective or within 30 days after this plan is approved, whichever is later.

* * * * *

(h) Requirements for nonpower reactor licensees authorized to possess formula quantities of strategic special nuclear material.

(1) Each nonpower reactor licensee authorized to possess, at any site or contiguous sites subject to control by the licensee, a formula quantity of strategic special nuclear material shall establish and maintain a physical protection system meeting the requirements of paragraphs (a) and (d) of this section. During any period when the amount of strategic special nuclear material possessed equals or exceeds a formula quantity, not including irradiated strategic special nuclear material which is not readily separable from other radioactive material, and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding, the physical protection system also must meet the following additional general performance requirements:

(i) Provide early detection and assessment of unauthorized access or activities by an insider adversary, or a conspiracy between insiders, within controlled access areas where special nuclear material is used or stored;

(ii) Provide early detection of attempts at removal of special nuclear material by an insider adversary, or a conspiracy between insiders, from controlled access areas where special nuclear material is used or stored; and

(iii) Provide for notification of the appropriate response forces, upon detection of attempts at unauthorized removal of special nuclear material from controlled access areas where the material is used or stored, in time to permit a response that will prevent the removal of a formula quantity of strategic special nuclear material.

(2) To meet the general performance requirements described in paragraphs (a) and (h)(1) of this section, during periods when required pursuant to paragraph (h)(1) of this section, the physical protection system must include the performance capabilities described in paragraphs (h)(3) through (h)(8) of this section, in addition to those described in paragraph (d) of this section.

(3) Deter access of unauthorized personnel into the controlled access areas required in paragraphs (d)(1) and (d)(2) of this section. To accomplish this the physical protection system must:

(i) Allow use and storage of the material only within controlled access areas encompassed by physical barriers.

(ii) Locate the controlled access areas within a protected area having separate and distinct physical barriers from the controlled access areas.

(iii) Provide access controls for the protected area similar to those required for controlled access areas in paragraphs (d)(4), (d)(5), (d)(6) and (d)(7) of this section.

(iv) Provide access controls for controlled access areas, in addition to those required in paragraphs (d)(4), (d)(5), (d)(6), and (d)(7) of this section, to assure that when controlled access areas are occupied, at least two authorized individuals are present and that a third authorized individual has knowledge of their presence in the controlled access area.

(v) Store the material only within

controlled access areas which are controlled separately from areas where the material is used, or within a separately controlled locked compartment within a controlled access area where the material is used.

(4) Detect unauthorized activities and conditions within the protected area and the controlled access areas sufficiently to permit a response to prevent the unauthorized removal of a formula quantity of strategic special nuclear material from the controlled access areas. To accomplish this the physical protection system must:

(i) Employ, in addition to the physical security intrusion alarms or other devices or procedures required in paragraph (d)(3) of this section, tamper-safe radiation detection equipment in the controlled access area in the vicinities of the reactor core and storage pool capable of detecting the unauthorized movement of irradiated reactor fuel. The sensors must alarm upon detecting radiation at levels equal to or greater than those generated by a source at floor level having a total external radiation dose rate no greater than 10 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding. The alarm must be monitored at a location remote from the building where the sensors are installed.

(ii) Monitor the protected area with an intrusion alarm or other devices or procedures to detect unauthorized penetration or activities.

(iii) Detect attempts at unauthorized access to all special equipment kept in the controlled access areas which are normally used to gain access to the special nuclear material located in the reactor core or storage pool.

(iv) Assure that a single adversary action is not capable of preventing the communication of detection information from the controlled access areas to the onsite response forces, and

(5) Prevent unauthorized removal of formula quantities of strategic special nuclear material from the controlled access areas. To accomplish this the physical protection system must:

(i) Provide barriers at the controlled access area boundaries to deter and delay the unauthorized removal of the material at other than attended controlled access area exit control points.

(ii) Detect attempts at unauthorized removal of strategic special nuclear material at attended controlled access area exit control points through the use of personnel, vehicle, and package exit searches, as appropriate, capable of detecting the presence of concealed special nuclear material.

(6) Provide a response capability to assure that the requirements of paragraphs (h)(1) through (h)(3) of this section can be achieved. To accomplish this the physical protection system must:

(i) Assure that the response time of offsite response forces is less than the minimum time required for an adversary to remove a formula quantity of strategic special nuclear material from the reactor core and storage.

(ii) Assure that a single adversary action cannot destroy the capability of the security organization to notify offsite response forces of the need for assistance.

(7) Notify the Director of the appropriate Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix A by telephone at least 48 hours in advance of the time the licensee expects to possess a formula quantity of nonexempt strategic special nuclear material exclusive of the type of irradiated material described in paragraph (h)(i) of this section.

(8) Include procedures in the physical protection system to assure that intrusion alarms, physical barriers, and other devices used for material protection pursuant to the requirements of this section are:

(i) Available for use in operable condition when required, and

(ii) Inspected and tested for operability and required functional performance immediately before and during periods they are required to be in use.

9. The introductory text and paragraph (c) of § 73.70 are revised to read as follows:

§ 73.70 Records.

Each licensee subject to provisions of §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.55, or 73.67(h) shall keep the following records:

* * * * *

(c) A register of visitors, vendors, and other individuals not employed by the licensee pursuant to §§ 73.46(d)(10), 73.55(d)(6), or 73.67(h).

* * * * *

Dated at Washington, D.C. this 14th day of September 1981.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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48 FR 32182

Published 7/14/83

Comment period expires 10/13/83. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date.

Implementation of the Convention on the Physical Protection of Nuclear Material

See Part 40 Proposed Rule Making

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48 FR 34056

Published 7/27/83

Comments must be received on or before 11/28/83. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date.

10 CFR Part 73

Physical Protection Requirements for Nonpower Reactor Licensees Possessing Formula Quantities of Strategic Special Nuclear Material

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission is proposing to amend its physical protection regulations for nonpower reactor (NPR) licensees possessing formula quantities of strategic special nuclear material (SSNM). The proposed amendments have been prepared in response to a Commission request for the development of these new physical protection requirements. These amendments would replace the interim requirements which are currently in force at these facilities. The result of these amendments will be the most cost-

effective approach for providing assurance against the theft of a formula quantity of SSNM, while taking into account the unique features of the facility design, and fuel type and form at NPRs.

DATE: Comments must be received on or before November 28, 1983. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date.

ADDRESSES: Comments or suggestions regarding the proposed amendments should be sent to the Secretary of the Commission, U.S Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Comments received will be available for examination and copying at the NRC Public Document Room at 1717 H Street NW., Washington, D.C. 20555. Also available in the NRC Public Document Room are copies of the Regulatory Analysis which includes an expanded cost/benefit discussion and Supporting Information which gives more details on the intent and rationale of the proposed amendments.

FOR FURTHER INFORMATION CONTACT: Dr. C. J. Withee, Fuel Facility Safeguards Licensing Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone (301) 427-4040.

SUPPLEMENTARY INFORMATION:

Definitions

To aid in understanding the Supplementary Information, the following definitions and citations to Title 10 of the Code of Federal Regulations (10 CFR) are given. The definitions also appear in 10 CFR 73.2 and in table form in 10 CFR Part 110 Appendix C.

(1) Special nuclear material of low strategic significance (referred to as Category III material) is: (a) More than 15 grams but not more than 500 grams of plutonium or uranium–233; (b) more than 15 grams but not more than 1000 grams of uranium–235 in uranium enriched to 20 percent or greater; (c) more than 1000 grams but less than 10,000 grams of unranium–235 in uranium enriched to 10 percent or more but less than 20 percent; or (d) 10,000 grams or more of uranium–235 in uranium enriched above natural but less than 10 percent. Fixed site physical protection requirements for nonexempt Category III material are contained in 10 CFR 73.67 (a) and (f).

(2) Special nuclear material of moderate strategic significance (referred to as Category II material) is: (a) More than 500 grams but less than 2000 grams of plutonium or uranium–233; (b) more than 1000 grams but less than 5000 grams of uranium–235 in uranium enriched to 20 percent or greater; or (c) 10,000 grams or more of uranium–235 in uranium enriched to 10 percent or greater but less than 20 percent. Fixed site physical protection requirements for nonexempt Category II material are contained in CFR 73.67 (a) and (d).

(3) A formula quantity (referred to as Category I material) is: (a) 2,000 grams or more of plutonium or uranium-233 or (b) 5,000 grams or more of uranium-235 in uranium enriched to 20 percent or greater. Current physical protection requirements for nonexempt Category I material at nonpower reactors (NPR) are contained in 10 CFR 73.60, 73.67(a) and 73.67(d).

Background

On July 24, 1979, the Commission approved a recommendation that nonpower reactor (NPR) licensees possessing formula quantities of strategic special nuclear material (SSNM) be deferred from implementing the requirements of the new Safeguards Upgrade Rule (10 CFR 73.20, 73.45, and 73.46). At that time, the Commission asked the staff to develop new physical protection requirements for NPR licensees that would provide comparable protection against the theft of SSNM. These new requirements were to take into account the unique safeguards considerations of facility design features, and fuel type and form at NPRs. In the interim, NPR licensees possessing a formula quantity of nonexempt material would be subject to the recently enacted Category II requirements (10 CFR 73.67(d)) as well as the old Category I requirements (10 CFR 73.60).

Under the interim regulations, NPR licensees are permitted to reduce the level of their physical protection measures to the extent that their fuel is irradiated sufficiently to qualify for the exemptions in 10 CFR 73.60 and 73.67(b)(1)(i). The exemptions rely on the deterrent effect that exists when fuel has an external radiation dose rate in excess of 100 rem per hour at 3 feet from any accessible point without intervening shielding. Presently, all NPR licensees who would have to implement the Category I protection requirements in 10 CFR 73.60 are keeping their fuel sufficiently irradiated to be exempted to a lower level of protection requirements (i.e. some are exempted to Category II and some to Category III requirements).

Also, under current regulations, physical protection measures only need be effective against external adversaries. Thus, insiders are not included as part of the adversary threat. However, as provided in 10 CFR 73.1(a)(2), insiders are part of the adversary threat for fuel cycle facilities possessing formula quantities of SSNM.

On August 12, 1981, the Commission approved the publication of proposed permanent physical protection requirements regarding Category I NPRs possessing nonexempt formula quantities of SSNM. These requirements were published in the **Federal Register** on September 18, 1981 (46 FR 46333) and took into account the NPR facility and fuel design and eliminated some Safeguards Upgrade Rule requirements. Those proposed requirements and the revised proposed requirements in this notice would include the insider as part of the adversary threat, limit the exemption which a Category I NPR licensee can receive to no lower than the level of Category II physical protection requirements, and replace the interim Category I requirements in 10 CFR 73.60.

The September 18, 1981 notice also included a statement of the staff's resolution of a number of issues which had been raised earlier. In particular, the Commission presented its findings that the existing protection exemption level of 100 rem per hour at 3 feet from any accessible surface without any intervening shielding was appropriate, and thus, a new level was not proposed. However, comments were specifically solicited on the 100 rem per hour level. Comments on that issue ranged from stating that the 100 rem per hour level was higher than necessary to proposing that the exemption level be raised all the way to 2,000 rem per hour. While the comments supported various exemption levels, they did not give any significant new technical information on the topic. After review of the comments, the staff determined that because the commenters supported a range of exemption levels and no significant new technical information was provided, there was insufficient reason to justify a proposed change in the 100 rem per hour level. However, since the Commission is asking for comment on the revised proposed amendments, any technical information or comment on the appropriateness of the 100 rem per hour and the use of Category II physical protection measures as a minimum level of material safeguards is again solicited. The following discussion is provided as background on this issue.

The proposed amendments would require NPR licensees possessing formula quantities of strategic special nuclear material to protect their material at least at the level prescribed in 10 CFR 73.67(d) for Category II material. This requirement would apply regardless of what portion of the material possessed is irradiated to meet the 100 rem per hour exemption. The amendments also require that additional physical protection measures, specified in a new paragraph, 10 CFR 73.67(h), be provided during periods when the amount of SSNM possessed having an external dose rate not exceeding the 100 rem per hour criterion equals or exceeds a formula quantity. The additional measures are designed to provide the affected NPR facilities with a level of protection comparable to that provided for formula quantities of SSNM at fuel cycle facilities, while taking advantage of a number of specific facility and fuel design features that collectively offer inherent protection against theft.

The existing exemption level, 100 rem per hour at 3 feet from any accessible surface without intervening shielding, is considered to be appropriate and has not been changed. The Commission staff has determined that it is appropriate to allow credit towards safeguards based upon radiation levels due to the deterrent quality of nuclear radiation and the adversaries' difficulty in accurately determining irradiation levels. The current exemption level, which is internationally accepted, does not, however, preclude the possibility of a dedicated adversary, heedless of the subsequent effects of the radiation exposure, from successfully removing a formula quantity of SSNM from an NPR facility before being physically incapacitated by the radiation effects. For this reason, it is considered prudent to require that the minimum level of physical protection provided for these NPR facilities be the same as that for Category II material, regardless of the amount of SSNM possessed which is irradiated beyond the 100 rem per hour at 3 feet level.

This approach is based on several considerations. It is acknowledged that the existing exemption level, 100 rem per hour at 3 feet, is not an incapacitating dose rate, but serves as a deterrent to theft. Also, staff believes that this dose rate will be a significant deterrent to the processing of the material for use as a weapon particularly recognizing the small quantities of material present at these reactors and the inherent difficulty in preprocessing the TRIGA and MTR plate-type fuel used in NPRs. Finally, this dose rate must be considered in view of the ALARA principles and the fact that higher dose rates would encourage reactor operation simply to meet the regulatory exemption level. This is against the ALARA principle in that reactors might operated at radiation levels higher than necessary.

Verbal comments have been received that favor changing the exemption criterion to one which specifies a dose rate per gram of contained uranium-235 isotope. Written comments on such a criterion, including its basis and justification, are also solicited.

Several nonsubstantive clarifying and conforming amendments to the currently effective Parts 50 and 70 were also proposed in the September 18, 1981 notice. There was no public comment on these amendments and they do not modify current practices or applications of the regulations, but only clarify the text of several sections. There is no further change in those previously proposed amendments and thus they are not repeated in this notice.

Response to the Public Comments

Twelve public comments were received which discussed specific provisions of the proposed rule. Eleven of these questioned one on more aspects of the proposed rule as being too restrictive or unnecessary. One commenter called for stricter requirements than those being proposed and supported a minority Commission position which was included in the 1981 notice.

The most frequent comments were: (1) The requirements as stated were too prescriptive and did not allow for consideration of site specific features; (2) the 100 rem per hour exemption level may be difficult for some licensees to maintain and could encourage some unnecessary reactor operations just to meet that level; (3) a phase-in period should be allowed before full Category I (i.e., when a formula quantity of SSNM becomes nonexempt) requirements are necessary; (4) licensees irradiating enough SSNM to over 100 rem per hour should only have to implement Category III (low strategic significance) physical protection measures and should be exempted from both Category I and Category II requirements; and (5) the cost estimates for implementing the proposed rule were too low.

In respose to these comments, the originally proposed amendments have been extensively revised as follows. First, the Category I physical protection requirements were rewritten as performance capabilities. A description of how the licensee intends to implement the requirements will be given in the physical security plan submitted for licensing review. Site specific features will be considered before licenses approval is given. To aid the public commenters in understanding the rule's intent, scope of application, and rationale, additional supporting information is available for inspection in the NRC Public Document Room, 1717 H Street, NW., Washington, DC 20555. Prescriptive security measures are no longer specified, thereby allowing the licensee greater flexibility in preparing its plan.

Second, given the inability of all but a very few insiders to know the expected dose rate from any irradiated fuel element, the licensee will be allowed to average its irradiated fuel to meet the 100 rem per hour exemption as long as no single fuel unit drops below 50 rem per hour at 3 feet. This approach will reduce the need for a licensee to conduct reactor operations just to satisfy the exemption criterion.

Third, the revised rule allows an interim period of 90 days after a licensee no longer meets the 100 rem per hour exemption level before it has to implement full Category I requirements. However, during the interim period some compensatory physical protection measures are required which could be less costly than the full Category I measures. This interim period can be permitted because, in most cases, as irradiated fuel decays below the 100 rem per hour average value, it does so fairly slowly.

Fourth, if a licensee can show that for a theft of a formula quantity it is reasonable to expect that a thief would receive an absorbed dose of at least 2000 rem, then the licensee will only have to satisfy Category III physical protection requirements. The 2000 rem dose would be incapacitating within a short period and would mean certain death. However, to maintain general comparability with the International Atomic Energy Agency (IAEA) standard that the irradiated fuel exemption should be used to drop a facility only one material protection category and because of the safeguards significance of uranium enriched above 20%, the rule requires NPR licensees possessing a formula quantity of SSNM to satisfy at least Category II physical protection requirements when the 2000 rem exemption cannot be met.

Fifth, given the extensive restructuring of the revised proposed rule the cost/benefit analysis was also extensively revised. This analysis reflects updated figures and is included in the Regulatory Analysis which is available for inspection in the NRC Public Document Room, 1717 H Street, NW., Washington, DC 20555.

Differences from the Safeguards Upgrade Rule

As a result of the uniqueness of the facility design features and the type and form of fuel at NPRs, it is not necessary to require physical protection measures as extensive as those specified for fuel fabrication facilities in the Safeguards Upgrade Rule. It is sufficient to require that the licensee detect an attempted theft and arrange for a response force to prevent the theft of a formula quantity of SSNM. This is acceptable in view of the fact that NPR fuel cannot be used directly in a clandestine fission explosive device without undergoing reprocessing to recover the uranium, and this requires a large commitment of resources. Also, because the SSNM is contained in fuel elements which typically have 100–200 grams of U–235 each, the theft of a formula quantity would have to include a number of repetitive acts that require a long time to complete. Thus, there will be considerable opportunity for a response action to prevent the removal of a formula quantity from the site.

As a result of these factors, a number of prescriptive Safeguards Upgrade Rule requirements can be reduced or eliminated for protecting formula quantities at NPRs. These include the reduction or elimination of requirements for redundant and hardened alarm stations, entrance searches for weapons and explosives, a second SNM exit search, 10 CFR Part 73 Appendix B Guard Training requirements and Appendix C Contingency Plans, armed guards on site, and vault hardening.

However, the proposed rule requires protection against theft by both insiders and external adversaries at security capability levels comparable to the Safeguards Upgrade Rule.

Cost/Benefit

Several benefits will be derived from implementing the proposed amendments rather than keeping the status quo. First, protection against insider theft of nuclear material will be included. This is not currently required. Second, licensees are given more flexibility in selecting a set of physical protection measures which can take maximum benefit of any site specific design features that aid security functions. Finally, except under special conditions, licensees who possess a formula quantity, regardless of its irradiation exemption status, must at least satisfy the physical protection requirements for Category II material, thereby reducing the possibility of theft of such material.

The cost comparison estimates the increase between implementing the proposed amendments and the measures necessary to satisfy Category II requirements. The Regulatory Analysis shows an estimated one time capital cost of $1,100 to $5,100 and an operating cost during one year of $300 to $7,900 per facility, if the proposed requirements are adopted. It should be noted that, within the range of cost estimates, a low operating cost will normally match up with a high capital cost and vice versa.

While there are 14 current NPR licensees who possess formula quantities, no more than three licensees are expected to have to implement the full Category I proposed requirements and this number could very well go to zero since dose rate averaging is allowed. In addition, if any licensee is unable to keep its amount of nonexempt fuel smaller than a formula quantity, this would most likely occur only for short periods of time which are less than the 90-day interim phase-in period. For those cases, it may not be necessary to expend the full capital costs as estimated. In fact, if labor intensive procedures are used in place of hardware during the short interim periods, the captial cost could be avoided altogether.

The revised proposed amendments are the most cost-effective approach for providing assurance against theft of a formula quantity while taking into account the unique features of the facility design, and fuel type and form at nonpower reactors.

Prior to the publication of the final effective amendments, the staff will:

(1) Develop licensee guidance for the amendments to include: (a) Acceptable local law enforcement arrangements, when relied upon to supplement the licensee's protection capabilities, and (b) acceptable compensatory protection measures for a 90 day phase-in-period;

(2) Update the previous discussion (SECY 81–376) on the effectiveness and achievability of the reliance on radiation fields in conjunction with the Category II physical protection measures; and

(3) Solicit comments from the State Department on: (a) Permitting Category III protection when it can be shown that a thief would be likely to receive a dose of 2000 rem or greater, and (b) allowing averaging of fuel elements in the core to meet the 100 rem per hour exemption criterion.

Paperwork Reduction Statement

The application and reporting requirements contained in these proposed amendments have been approved by the Office of Management and Budget; OMB approval No. 3150–0002.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission hereby certifies that this rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. This proposed rule would amend 10 CFR Part 73 to require any nonpower reactor licensee authorized to possess a formula quantity of strategic special nuclear material to submit amendments to its physical security plan. These plans would include certain additional security precautions that would be implemented when a sufficient amount of the licensee's irradiated fuel drops below the 100 rem per hour at 3 feet external radiation dose rate exemption level resulting in the licensee possessing a formula quantity of fuel that is not self-protecting.

At this time the proposed amendments would require only 14 licensees to submit revised security plans, and no more than three nonpower reactor licensees are expected to implement the additional security measures. The amendments probably would not affect any future licensees since they would not likely build a nonpower reactor requiring a formula quantity of SSNM.

The 14 licensees include two large companies (Union Carbide Corporation and GA Technologies, Inc.), ten major universities (Georgia Institute of Technology, University of Wisconsin, Massachusetts Institute of Technology, University of Michigan, University of Virginia, Oregon State University, Virginia Polytechnic Institute, Texas A&M, University of Missouri at Columbia, and Washington State University), the National Bureau of Standards (NBS), and the Rhode Island Atomic Energy Commission. The two corporations and ten universities each employ in excess of 500 employees and have annual sales or revenues in excess of $1 million for services they provide. NBS and the Rhode Island Atomic Energy Commission are a Federal and state agency, respectively. None of these affected licensees fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or the Small Business Size Standards in regulations issued by the Small Business Administration at 13 CFR Part 121.

List of Subjects in 10 CFR Part 73

Hazardous materials-transportation, Nuclear materials, nuclear power plants and reactors, Penalty, Reporting requirements, Security measures.

For the reasons set out in the Preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, notice is hereby given that the NRC is proposing to adopt the following amendments to 10 CFR Part 73.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIAL

1. The authority citation for Part 73 is revised to read as follows:

Authority: Secs. 53, 161, 68 Stat. 930, 948, as amended, sec. 147, 94 Stat. 780 (42 U.S.C. 2073, 2167, 2201); sec. 201, 88 Stat. 1242, as amended, sec. 204, 88 Stat. 1245 (42 U.S.C. 5841, 5844).

Section 73.37(f) is also issued under sec. 301, Pub. L. 96–295, 94 Stat. 789 (42 U.S.C. 5841 note).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 73.21, 73.37(g).

73.55 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 73.20, 73.24, 73.25, 73.26, 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, 73.67 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 73.20(c)(1), 73.24(b)(1), 73.26(b)(3), (h)(6), and (k)(4), 73.27(a) and (b), 73.37(f), 73.40 (b) and (d), 73.46(g)(6) and (h)(2), 73.50(g)(2), (3)(iii)(B) and (h), 73.55(h)(2), and (4)(iii)(B), 73.70, 73.71, 73.72 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

2. In § 73.6, paragraph (e) is revised to read as follows and the flush paragraph which follows (e) is removed:

§73.6 Exemptions of certain quantities and kinds of special nuclear material.

* * * * *

(e) Special nuclear material at nonpower reactors. Any licensee subject to § 73.67(h) is not exempted from §§ 73.70 and 73.72, and any licensee subject to § 73.67(e) is not exempted from § 73.72 of this part.

3. In § 73.40, paragraph (b) is revised to read as follows:

§73.40 Physical protection: General requirements at fixed sites.

* * * * *

(b) Each licensee subject to the requirements of §§ 73.20, 73.45, 73.46, 73.50, or 73.55 shall prepare a safeguards contingency plan in accordance with the criteria set forth in Appendix C to this part. The safeguards contingency plan shall include plans for dealing with threats, thefts, and radiological sabotage relating to nuclear facilities licensed under Part 50 or to the possession of special nuclear material licensed under Part 70 of this chapter. Each licensee subject to the requirements of this paragraph shall submit to the Commission for approval the first four categories of information contained in the safeguards contingency plan. (The first four categories of information, as set forth in Appendix C to this part, are Background, Generic Planning Base, Licensee Planning Base, and Responsibility Matrix. The fifth category of information, Procedures, does not have to be submitted for approval.)[1] The plan shall become effective and be followed (when appropriate) by the licensee 30 days after approval by the Commission.

* * * * *

§ 73.60 [Removed]

4. Section 73.60 is removed.

5. Section 73.67 is amended as follows:

a. Paragraphs (b) and (c) are revised;

b. In paragraph (d), (10) and (11) are revised and a new (12) is added; and

c. A new paragraph (h) is added to read as follows.

§ 73.67 Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance and of formula quantities at nonpower reactors.

* * * * *

(b) Exemptions. (1) A licensee's possession, use, or transportation of the following materials is exempt from the requirements of this section:

(i) Special nuclear material in a quantity not exceeding 350 grams of uranium-235, uranium-233, plutonium, or a combination thereof, possessed in any analytical, research, quality control, metallurgical, or electronic laboratory, or

(ii) Sealed plutonium-beryllium neutron sources totaling 500 grams or less contained plutonium at any one site or contiguous sites, or

(iii) Plutonium with an isotopic concentration exceeding 80 percent in plutonium-238.

(2) A licensee, other than a nonpower reactor licensee who possesses a formula quantity or more of strategic special nuclear material, is exempt from the requirements of this section to the extent that it possesses, uses, or transports special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

(3) A nonpower reactor licensee who possesses a formula quantity is exempt from the additional requirements above those for special nuclear material of moderate strategic significance to the extent that it possesses special nuclear material which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

(4) During an interim period of 90 days after a formula quantity of nonexempt fuel is possessed by a nonpower reactor licensee, approved compensatory measures may be substituted for those approved on a permanent basis.

(5) Any nonpower reactor licensee possessing a formula quantity may protect its special nuclear material at the level of low strategic significance if the expected total dose to any individual would be 2000 rems or greater during the unauthorized removal of any formula quantity from the licensee's facility.

(6) A licensee, other than a nonpower reactor licensee who possesses a formula quantity or more of strategic special nuclear material, who has quantities of special nuclear material equivalent to special nuclear material of moderate strategic significance distributed over several buildings shall, for each building which contains a quantity of special nuclear material less than or equal to a level of special nuclear material of low strategic significance, protect the material in that building at least at the level of the lower classification physical security requirements.

(c) Each licensee who possesses, uses, transports, or delivers to a carrier for transport, special nuclear material of moderate strategic significance or 10 kg or more of special nuclear material of low strategic significance, and each licensee who possesses a formula quantity of strategic special nuclear material for use in the operation of a nonpower reactor, shall:

* * * * *

(2) Within 30 days after the plan(s) submitted pursuant to paragraph (c)(1) of this section is approved, implement the approved security plan; or

(3) For a nonpower reactor licensee who possesses a formula quantity of strategic special nuclear material: (i) Submit within 150 days after the effective date of these amendments, a physical security plan or an amended physical security plan describing how the licensee will comply with the requirements of paragraph (h) of this section, any compensatory measures to be used during a 90-day interim period, schedules of implementation, and methods used for determining external radiation dose rates of irradiated reactor fuel; and (ii) implement the applicable parts of the approved physical security plan submitted pursuant to paragraph (c)(3)(i) of this section within 240 days after the effective date of these amendments, or within 30 days after the plan is approved, whichever is later.

(d) Fixed Site Requirements for Special Nuclear Material of Moderate Strategic Significance.

* * * * *

(10) Search on a random basis vehicles and packages leaving the controlled access areas,

(11) Establish and maintain response procedures for dealing with threats of thefts or thefts of such materials, and

(12) Notify the appropriate Nuclear Regulatory Commission Regional

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[1] Licensees subject to § 73.55 may modify their physical security plans to incorporate contingency plan information specified in Appendix C to Part 73. A physical security plan that contains all the information required in both § 73.55 and Appendix C to Part 73 satisfies the requirement for a contingency plan.

Administrator at least 48 hours in advance of the time the licensee expects that it will possess a formula quantity of nonexempt strategic special nuclear material.

* * * * *

(h) Additional requirements for nonpower reactor licensees possessing formula quantities of nonexempt strategic special nuclear material. Each nonpower reactor licensee who possesses, at any site or contiguous sites subject to control by the licensee, a formula quantity of nonexempt strategic special nuclear material shall meet the requirements of paragraphs (a) and (d) of this section and, in addition, shall:

(1) Satisfy the requirements of paragraph (a)(2) of this section against a single insider and a conspiracy between insiders, as well as an external adversary, during any period when possession exceeds a formula quantity of nonexempt material;

(2) Achieve the following capabilities in order to meet the objectives of paragraph (h)(1) of this section.

(i) Detect access of unauthorized personnel to strategic special nuclear material within controlled access areas situated within a protected area;

(ii) Detect unauthorized activities and conditions within the protected area and the controlled access areas;

(iii) Detect unauthorized removal or strategic special nuclear material from the controlled access areas; and

(iv) Provide for a response capability sufficient to prevent the unauthorized removal of a formula quantity of strategic special nuclear material from the protected area; and

(3) Test physical protection devices used pursuant to the requirement of this section to assure their functional performance during periods when they are required to be in use.

6. In § 73.70 the introductory text and paragraph (c) are revised to read as follows:

§ 73.70 Records

Each licensee subject to provisions of §§ 73.20, 73.25, 73.26, 73.27, 73.45, 73.46, 73.55 or 73.67(h) shall keep the following records:

* * * * *

(c) A register of visitors, vendors, and other individuals not employed by the licensee (as stated in §§ 73.46(d)(13) and 73.55(d)(6), or when the licensee is required to satisfy § 73.67(h)).

* * * * *

Dated at Washington, DC, this 22nd day of July 1983.

For the Nuclear Regulatory Commission.
Samuel J. Chilk,
Secretary of the Commission.

➤49 FR 23867
Published 6/8/84
Comment period expires 9/10/84

10 CFR Part 73

Modification of Protection Requirements for Spent Fuel Shipments

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission is considering amending its regulations for the physical protection of irradiated reactor fuel in transit. The issue under consideration is one of safeguards rather than safety. The amendments would take into account new data from a research program and from other sources that indicate that the consequences of successful sabotage of an irradiated fuel shipment in a heavily populated area would be small compared to the consequence estimates that prompted issuance of the current rule. For certain spent fuel shipments, these amendments would provide continued protection against sabotage, while at the same time relieving the licensee of non-essential requirements.

DATE: Comment period expires September 10, 1984.

ADDRESSES: Written comments should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch. Copies of comments on the proposed rule may be examined and copied for a fee at the NRC Public Document Room, 1717 H Street NW, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Carl B. Sawyer, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commision, Washington, DC 20555, Telephone: 301-427-4186.

SUPPLEMENTARY INFORMATION:

Background

The NRC carries out a continuing series of studies to aid in determining the measures that are needed to protect radioactive material, including irradiated (spent) fuel, against sabotage. During the mid-1970s, studies (NUREG-0194, "Calculations of Radiological Consequences from Sabotage of Shipping Casks for Spent Fuel and High-Level Waste," February 1977; and NUREG-0170, "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes," December 1977), estimated the health effects of a radiological release in a non-urban area resulting from a high-explosive assault of a spent fuel cask. The estimated risks were not considered to be substantive enough to warrant regulatory action. A subsequent study by Sandia Laboratories included a chapter on the sabotage of spent fuel in urban areas of high population density (SAND 77-1927, "Transport of Radionuclides in Urban Environs: A Working Draft Assessment"). This study suggested that the sabotage of spent fuel shipments had the potential for producing serious radiological consequences in areas of high population density. The Commission concluded that, in order to protect health and minimize danger to life and property (sections 161b and 161i(3) of the Atomic Energy Act of 1954, as amended), it was prudent and desirable to require certain interim safeguards measures for spent fuel shipments. The focus of concern was on possible successful acts of sabotage in densely populated urban areas. Because of the possibility that spent fuel shipments could be hijacked and moved from low population areas to high population areas, the interim requirements applied to all shipments, even though the planned shipment route did not pass through a densely populated urban area. The interim requirements were to be in effect until the results of confirmatory research became available and were analyzed.

The interim rule, which set forth physical protection requirements in 10 CFR 73.37, was issued on June 15, 1979, and was made effective on July 3, 1979. The rule was issued without benefit of public comment, but at the time of publication public comment was invited. Afte reviewing the public comments and after taking into account its experience in administering the rule, the NRC, on June 3, 1980, published amendments to the rule. The amendments were made effective on July 3, 1980, and the amended rule is currently in effect as 10 CFR 73.37(a) through (e).

Related Research

SAND 77-1927, which prompted issuance of the protection requirements, contained estimates which were unavoidably subject to large uncertainties due to a lack of technical data. A later draft of the Sandia report

("Transportation of Radionuclides in Urban Environs: Draft Environmental Assessment") was published by the NRC as NUREG/CR-0743. Although this draft predicted less serious consequences, a significant degree of uncertainty still remained that could be resolved only by further study and experiments.

Investigators at that time agreed and continue to agree (1) that consequences of an act of sabotage would be a direct function of the quantity of spent fuel that would be released in respirable form, and (2) that the only credible means of malevolent generation of respirable particles would be through the use of a large quantity (tens to hundreds of pounds) of high explosive skillfully applied. Little information was available to aid in predicting the response of spent fuel and spent fuel casks to explosive sabotage.

The NRC and the Department of Energy (DOE) responded to this need for technical data by sponsoring separate but coordinated experimental programs. Both programs were designed to yield information about the release from a specified reference sabotage event, which was defined as follows. Saboteur skills were specified as those of an experienced military or commercial explosive demolition specialist. Familiarity with a wide range of kinds and configurations of explosives was assumed. Use of up to hundreds of pounds of military or commecial explosives was permitted. For the special case of shaped charges, use of the U.S. Army M3A1 was assumed. It is the largest shaped charge readily available. An M3A1 causes damage through formatin of a high pressure particulate jet which may be a fraction of an inch in diamter and has the capability to penetrate two or more feet of metal, eroding everything in its path. From the outset, it was expected that a shaped charge would be more efficient than other configurations in producing respirable particles. For that reason the M3A1 was designated as the reference explosive. The refernece cask was specified as a single-assembly cask. The specificaton is conservative since a single-assembly cask has smaller dimensions than a multiassembly cask and is, therefore, more likely to yield a greater quantity of respirable particles (per assembly) in response to a given level of explosive sabotage.

A series of experiments using model (small-scale) explosives against simulated casks containing irradiated fuel characterized the NRC-sponsored program. These experiments used pressurized water reactor (PWR) fuel with a burnup of approximately 30,000 megawatt days per metric ton of heavy metal and approximately six-and-a-half-year cooling. Measurement of the quantity of released material revealed the fraction that was made up of particles of respirable size (those having a diameter of less than four microns). Upward scaling permitted the data to take into account the effect of the reference explosive and a full-scale cask. Scaling led to the conclusion that less than nine grams of spent fuel would be released in respirable form if the reference charge were used successfully against a cask containing a single PWR spent fuel assembly. Using results of the METRAN computer code for health conseuences (one of two health consequence codes used in SAND 77-1927 and NUREG/CR-0743) as set forth in Table 5-6 of NUREG/CR-0743 and assuming 150-day rather than six-and-a-half-year cooling, reserachers found that the average radiological consequence of a release in a heavily populated area such as New York City would be no early fatalities and less than one (0.4) latent cancer fatality. Early fatalities are those that occur within one year after exposure to the radioactive material. Latent cancer fatalities are those that occur at any time following the exposure and could result from the intitial exposure or from any long-term exposure to low levels of contamination.

The average consequence values just cited were selected as being the most representative of the values that were calculated for the specified release. Either higher or lower consequence values can be obtained, depending on the circumstances that are assigned. The following is an example from among the higher values that can be obtained from the data. For the most densely populated area studied (up to 200,000 persons per square mile), at evening rush hour on a business day, and in the most unfavorable location for a release, the calculated radiological consequence (peak consequence) based on data from Table 5-4 of NUREG/CR-0743 is no early fatalities and less than three (2.9) latent cancer fatalities.

The results of an explosive sabotage experiment vary from experiment to experiment, and only a limited number of experiments can be performed. The results of the NRC-sponsored program are based on four scaled experiements using irradiated fuel, and the largest measured release value was used to derive the nine-gram value cited. In addition, a number of supporting tests were performed to establish shaped charge jet characteristics and jet-to-fuel-pin interaction.

Results of the NRC-sponsored research program (as well as those of the DOE program to be discussed subsequently) assume sabotage of a single-assembly cask, while the original SAND 77-1927 and NUREG/CR-0743 estimates assume a three-assembly cask. For the levels of release under consideration here, the releases and the health consequences for a three-assembly cask are calculated to be, at worst, double those for a single-assembly cask. The presence of additional assemblies in a cask would increase the likely release, but only in proportion to the number of assemblies that lie in the roughly straight line path of the jet. For more than three PWR assemblies (a fully loaded rail cask could contain 10 PWR assemblies) the upper bound of release would likely increase roughly in proportion to the square root of the total number of assemblies contained in a cask. On the basis of energy release from the explosive, it is expected that the number of fatalities from a sabotage explosion would be greater than the number of radiologically induced fatalities.

Explosive charges other than shaped charges were considered. In other experiments, scaled charges representing full-scale charges of up to several hundred pounds of explosive did not breach the cask's inner containment components. Accordingly, such full-scale charges appear unlikely to produce any release of spent fuel and hence unlikely to cause radiological consequences.

The program sponsored by DOE included one full-scale and several small-scale experiments. The full-scale experiments used a reference charge against a full-scale cask containing a single unirradiated surrogate fuel assembly. Again the quantity of material released from the cask was measured, and the released quantity was analyzed to determine what fraction was composed of respirable-sized particles. About three grams of respirable surrogate fuel was released. On the basis of the results of small-scale fuel characterization experiments which had been conducted separately, it was determined that a release of three grams of surrogate fuel was equivalent to a maximum release of 17 grams of irradiated fuel. Using the CRAC computer code for health consequences (the second of the computer codes used in SAND 77-1927 and NUREG/CR-0743 and a code which generally predicts higher health consequences than the METRAN code) and again assuming 150-day cooling, researchers found that the average radiological consequence of a 17-gram release in a heavily populated area such as New York City would be no early fatalities and about 2 latent cancer fatalities.[1] The peak consequences appearing in the computer runs were no early fatalities and about 7 latent cancer fatalities. Values of average or peak consequences should be doubled to account for the case of a three-assembly truck cask.

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[1] The current CRAC code that is cited here (sometimes referred to as CRAC 2) is a modified version of the code that was used in SAND 77-1927 and NUREG/CR-0743. The modified version predicts consequences a few percent higher than the earlier version; the estimated consequences are based on this modified version.

Conceivably, an adversary could use more than one shaped charge in attacking a cask, and that possibility was considered. For shaped charges the size of the reference charge, the likely result is that the release would be in proportion to the number of charges used. The use of larger shaped charges is conceivable but less credible. These types of charges would probably have to be custom-made, thereby introducing a formidable new problem for an adversary. There is no known technology that would allow a disproportionately large increase in production of respirable particles with credible increase in a saboteur's explosive resources.

Most consequence calculations discussed herein are based on fuel subjected to burnup of 33,000 megawatt days per metric ton of heavy metal (MWd/MT) at a power density of 40 kilowatts per kilogram of heavy metal (KW/Kg), which is termed reference fuel. The possible transport of spent fuel subjected to higher burnup was considered, although these shipments are not now being made. For fuel subjected to 40,000 MWd/MT (which is typical of the higher burnups being considered) at a power density of 36.4 KW/Kg, the calculated consequences of successful sabotage are about 45 percent higher than the consequences of successful sabotage of reference fuel.

Additional information on the NRC-sponsored program can be found in a report entitled "Final Report On Shipping Cask Sabotage Source Term Investigation." Additional information on the DOE-sponsored program can be found in a report entitled "An Assessment of the Safety of Spent Fuel Transportation in Urban Environs." A peer review of both research programs was carried out by the U.S. Army's Ballistic Research Laboratory. The review focused on the interaction between explosives, cask, and fuel and on the experimental techniques used. The conclusions in the peer review report generally confirm the reasonableness of the approaches taken in the research, and based on the assumptions of the research approach, confirmed the estimated release levels. The two research reports, the peer review report, and SAND 77-1927 are available for inspection at the NRC Public Document Room, 1717 H Street NW., Washington, DC. NUREG/CR-0743 is available from the NRC/GPO Sales Program, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

Conclusions

For the following reasons, the Commission concludes that moderation of the current interim rule (10 CFR 73.37) for the protection of spent fuel shipments against sabotage is justified:

1. Issuance of the interim rule was based chiefly on consequence estimates set forth in SAND 77-1927. A baseline estimate, a high estimate, and a low estimate were provided. At the time the rule issuance was under consideration, the high consequence estimate was based on 14,000 grams of respirable release for a truck cask containing three fuel assemblies and on 47,500 grams of respirable release for a rail cask. At the time, the high-estimate releases could not be ruled out. The calculated average consequences for truck cask sabotage were summarized as several tens of early fatalities and hundreds of latent cancer fatalities. The calculated average consequences for a rail cask were summarized as hundreds of early fatalities and thousands of latent cancer fatalities. The research recently completed has shown that the likely respirable release from sabotage and the resulting consequences are but a tiny percentage of the estimated values which originally prompted issuance of the rule. Accordingly, the original basis for the rule is no longer valid.

2. The value of consequence now predicted (no early fatalities and about four latent cancer fatalities average for reference basis sabotage of a three-assembly cask) is obtained only when a set of assumptions very favorable to the saboteur are made. The effects of assumptions less favorable to a saboteur are discussed below:

a. *Fuel burnup and cooling.* Consequence calculations are based on reference fuel cooled for 150 days. Because of lower burnup and longer cooling, assemblies currently being shipped typically contain a radioactive material inventory 0.2 to 0.5 as hazardous as the assumed inventory for reference fuel.

b. *Population density.* The release of radioactive material was postulated to take place within an area with population density in the range between 62,000 and 200,000 persons per square mile. Very few (perhaps only one) locations in the U.S. are characterized by this population density. Consequences decline markedly for lower population density.

c. *Lifetime of respirable particles.* A respirable particle tends to adhere to the first sizeable particle it encounters or to serve as a condensation site for vapors (such as water), thus possibly limiting its lifetime to one that is shorter than that necessary for human inhalation and deep deposition in the lung. In an actual sabotage, products of the explosion would undoubtedly provide numerous larger-than-respirable particles that would act as agglomeration sites for respirable particles. In both sets of experiments, the products of the explosion were isolated from the cask to keep the measurement problems manageable. Water particles (fog-like droplets) would also serve as agglomeration sites. Finally, water vapor or materials vaporized by the explosive earlier do not account for a water jacket or annulus of wet material present in all truck casks now in use. An experiment has shown that the presence of water (water jacket and water-filled cavity) between the explosive and the fuel reduces the quantity of respirable material released by a factor of 40.

Simultaneous occurrence of worst- or near-worst-case values for each of these factors, plus an assumption of successful sabotage appears remote in the extreme. Calculated consequences reported herein are reduced by factors of up to hundreds if values other than the most favorable are assigned.

3. Although the experiments have reduced the uncertainty in the quantity of material likely to be released as a result of successful sabotage, there are limitations to the conclusions of the program that must be taken into account. The reduced consequences described herein are necessarily subject to several assumptions, including that of a reference explosive. While the shaped charge selected for the explosive threat represents a very severe threat, even more severe threats cannot be ruled out if an adversary is granted protracted control of a shipment and unhindered movement. In a similar vein, consequence modeling assumptions more severe than those postulated in NUREG/CR-0743 can also be conjectured (e.g., localized areas, such as stadiums, with extremely high population densities), if completely unrestricted movement of the shipment and unrestrained use of sabotage resources against the shipment are allowed. For these reasons a set of moderate requirements that would continue to provide a significant level of protection against protracted loss of control of a shipment and unhindered movement of a shipment by a saboteur is being considered. The requirements should (a) deny an adversary easy access to shipment location information; (b) provide for early detection of malevolent moves against or loss of control of a shipment; (c) provide a means to quickly summon assistance from local law enforcement authorities; and (d) provide a means to impede unauthorized movement of a truck shipment into a heavily populated area.

Summary of the Proposed Rule

A rule is proposed that takes into account the new information and conclusions which have emerged from the research program. The important features of the proposed rule are:

1. The performance requirements for protection of spent fuel shipments have been modified to emphasize protection against sabotage with high consequence. High consequence refers to the levels of consequence that prompted issuance of the original interim rule. For a truck shipment, high consequence refers to tens of early fatalities and hundreds of latent cancer fatalities.

2. For shipment of spent fuel cooled less than 150 days, the current requirements would continue to apply, because detailed consequence calculations for such fuel have not been carried out.

3. For shipments of spent fuel cooled 150 days or more, a new set of moderate requirements would apply that are consistent with the experimentally determined level of consequence. The requirements call for a shipment to be accompanied by an unarmed escort (who may also serve as driver, rail employee, or ship's officer) who would carry out prescribed security procedures. In addition, present requirements for protection of shipment schedule information, onboard communications (all transport modes), and immobilization (truck mode only) would be retained.

Among other requirements considered no longer needed (for shipments of fuel cooled 150 days or more) are those for route surveys and advance coordination with local law enforcement agencies (LLEAs). New DOT requirements for routing (49 CFR 177.825) issued in the interest of safety and recently put in force apply to NRC licensees and require them to use routes consistent with NRC safeguards routing policy. With respect to LLEA coordination, a separate NRC rule (the present § 73.37(f)) requires the notification of governors (or designated state officials) whenever spent fuel is to be transported within a state to enable the state to contribute to the safety, security, and ease of transport of the shipment. State LLEAs typically are informed of impending shipments through this process.

Environmental Impact: Negative Declaration

The promulgation of these amendments would not result in any activity that affects the environment. Accordingly, the Commission has determined under the National Environmental Quality guidelines and the criteria of 10 CFR 51.5(d) that neither an environmental impact statement nor environmental impact appraisal to support a negative declaration for the proposed amendments to Title 10 is required.

Paperwork Reduction Act Statement

This proposed rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) by reducing the burden. This rule has been submitted to the Office of Management and Budget for review of the proposed revised paperwork requirements.

Regulatory Flexibility Certification

Based on the information available at this stage of the rulemaking proceeding and in accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), a significant economic impact upon a substantial number of small entities. The rule, if promulgated, would apply to licensees who transport or deliver to a carrier for transport a shipment of spent fuel in a quantity in excess of 100 grams. Typical of the licensees who deliver spent fuel to carrier for transport are nuclear power reactor operators, independent spent fuel storage pool operators, and research institutions. None of the licensees who deliver spent fuel to a carrier for transport are known to be small entities. Licensees who transport spent fuel are typically large carriers who specialize in the transport of radioactive materials and other hazardous materials and who have many employees. No small entities are known to be within this licensee group.

The NRC has estimated the cost impact of these amendments upon the licensed industry. According to these estimates licensees would incur the following costs, assuming continuation of the current approximately 135 shipments annually. One-time costs for the proposed amendments have already been expended due to the same requirements under the present interim rule. Annual maintenance cost of equipment required by the proposed amendments is estimated at $14,000. Annual planning and administration cost is estimated at $7,000. Total cost to licensees is therefore estimated at $21,000 annually.

One savings to industry under the proposed amendments would be the elimination of about $27,000 expended annually for armed escorts presently required under the interim rule. Simplification of administration is estimated to result in an additional saving of $13,000 annually. Further information regarding these estimates is set forth in a document entitled "Modification of Protection Requirements for Spent Fuel Shipments: Regulatory Analysis" and is available for inspection and copying in the NRC Public Document Room, 1717 H Street NW., Washington, D.C.

Any small entity subject to this regulation which determines that, because of its size, it is likely to bear a disproportionate adverse economic impact should notify the Commission of this in a comment that indicates:

(a) The licensee's size in terms of annual income or revenue and number of employees;

(b) How the proposed regulation would result in a significant economic burden upon the licensee as compared to that on a larger licensee; and

(c) How the proposed regulations could be modified to take into account the licensee's differing needs of capabilities.

Public Comment Solicited

Although it welcomes public comment on any aspect of the proposed regulation, the Commission particulary solicits comment on the following topics:

1. Is more research justified for safegurads of shipments of spent fuel cooled less than 150 days before shipment?

2. Should the NRC simplify its safeguards regulations by prohibiting shipment of fuel cooled less than 150 days before shipment?

3. Are the NRC cost estimates in accord with licensee experience?

List of Subjects in 10 CFR Part 73

Hazardous materials—Transportation, Incorporation by reference, Nuclear materials, Packaging and containers, Penalty, Reporting requirement.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, notice is hereby given that adoption of the following amendments to 10 CFR Part 73 is contemplated.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

1. The authority citation for Part 73 is revised to read as follows:

Authority: Secs. 53, 161, 68 Stat. 930, 948, as amended, sec 147, 94 Stat. 780 (42 U.S.C. 2073, 2167, 2201); sec. 210, 88 Stat. 1242, as amended, sec. 204, 88 Stat. 1245 (42 U.S.C. 5841, 5844).

Sections 73.37 (g) and (h) are also issued under sec. 301, Pub. L. 96–295, 94 stat. 789 (42 U.S.C. 5841 note).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §73.21, 73.37(h), 73.55 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 73.20, 73.24, 73.25, 73.26, 73.27 73.37, 73.40, 73.45, 73.50, 73.55, 73.67 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 73.20 (c)(1), 73.24 (b)(1), 73.26 (b)(3), (h)(6), and (k)(4), 73.27 (a) and (b), 73.37 (g) and (h), 73.40 (b) and (d), 73.46 (g)(6) and (h)(2), 73.50 (g)(2), (3)(iii)(b) and (h), 73.55 (h)(2), and (4)(iii)(B), 73.70, 73.71, 73.72 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

2. Section 73.37 is amended as follows:

a. Paragraphs (a)(1)(i), (a)(2)(iii), and (b)–(e) are revised.

b. Existing paragraphs (f) and (g) are redesignated as paragraphs (g) and (h) respectively and are revised.

c. A new paragraph (f) is added.

§ 73.37 Requirements for physical protection of irradiated fuel in transit.

(a) *Performance objectives.*

(1) * * *

(i) Minimize the possibilities for high consequence radiological sabotage of spent fuel shipments; and

* * * * *

(2) * * *

(iii) Impede attempts at high consequence radiological sabotage of spent fuel shipments or attempts to illicitly move spent fuel shipments containing materials with high consequence potential, until response forces arrive.

* * * * *

(b) *General requirements for protection of shipment of spent fuel cooled for less than 150 days.* The licensee, in order to achieve the performance objectives of paragraph (a) of this section, shall provide for a physical protection system that has been established, maintained, or arranged for fuel that has been used as part of an assembly to sustain nuclear fission in a self-supporting chain reaction at any time during the 150-day period before the date on which the fuel is loaded aboard a transport vehicle for transport. This physical protection system must include the following:

* * * * *

(c) *Shipments by road of spent reactor fuel cooled less than 150 days.* In addition to the provisions of paragraph (b) of this section, the physical protection system for any portion of a spent fuel shipment subject to paragraph (b) of this section that is by road must provide that:

* * * * *

(d) *Shipments by rail of spent reactor fuel cooled less than 150 days.* In addition to the provisions of paragraph (b) of this section, the physical protection system for any portion of a spent fuel shipment subject to paragraph (b) of this section that is by rail must provide that:

* * * * *

(e) *Shipments by sea of spent reactor fuel cooled less than 150 days.* In addition to the provisions of paragraph (b) of this section, the physical protection system for any portion of a spent fuel shipment subject to paragraph (b) of this section that is by sea must provide that:

* * * * *

(f) *Requirements for protection of shipments of spent fuel cooled 150 days or more.* To achieve the performance objectives of paragraph 73.37(a) of this section, a physical protection system established, maintained, or arranged for by the licensee for fuel which has not been used as part of an assembly to sustain nuclear fission in a self-supporting chain reaction at any time during the 150-day period before the date on which the fuel is loaded aboard the transport vehicle for transport shall:

(1) Provide for notification of the Nuclear Regulatory Commission in advance of each shipment, in accordance with § 73.72 of this part;

(2) Include procedures for coping with circumstances that threaten deliberate damage to a spent fuel shipment and with other safeguards emergencies;

(3) Provide that shipments are planned so that scheduled intermediate stops are avoided to the extent practicable;

(4) Provide for at least one escort, who may be a shipment vehicle operator or an officer of the shipment vessel, and who maintains visual surveillance of the shipment during periods when the shipment vehicle is stopped, or the shipment vessel is docked;

(5) Assure that the escort has been familiarized with, and is capable of implementing the security procedures;

(6) Include instructions for each escort that, upon detection of the abnormal presence of unauthorized persons, vehicles or vessels in the vicinity of a spent fuel shipment, or upon detection of a deliberately induced situation that has the potential for damaging a spent fuel shipment, the escort will:

(i) Determine whether or not a threat exists;

(ii) Assess the extent of the threat, if any;

(iii) Inform local law enforcement agencies of the threat and request assistance; and

(iv) Implement the procedures developed in accordance with paragraph (f)(2) of this section;

(7) Provide, for shipments by road, a capability for an escort to communicate with local law enforcement agencies through the use of the following equipment located on the transport vehicle:

(i) citizens band (CB) radio; and

(ii) radiotelephone or other NRC-approved equivalent means of two-way voice communication;

(8) Provide, for shipments by road, NRC-approved features that permit immobilization of the cab or cargo-carrying portion of the vehicle;

(9) Provide, for shipments by rail, a capability for an escort to communicate with local law enforcement agencies through the use of a radiotelephone or other NRC-approved equivalent means of two-way voice communication, which must be available on the train; and

(10) Provide, for shipments by water in U.S. territory, a capability for an escort to communicate with local law enforcement agencies through the use of radiotelephone or other NRC-approved equivalent means of two-way voice communication.

(g) Prior to the transport of spent fuel within or through a state a licensee subject to this section shall notify the governor or the governor's designee. The licensee shall comply with the following criteria in regard to a notification.

(1) The notification must be in writing and sent to the office of each appropriate governor or the governor's designee. A notification delivered by mail must be postmarked at least 7 days before transport of a shipment within or through the state. A notification delivered by messenger must reach the office of the governor or the governor's designee at least 4 days before transport of a shipment within or through the state. A list of mailing addresses of governors and governor's designees was published in the Federal Register on June 7, 1982 (Vol. 47, No. 109, pages 24671–24673). An updated list will be published annually in the Federal Register on or about June 30.

(2) The notification must include the following information:

(i) The name, address, and telephone number of the shipper, carrier and receiver;

(ii) A description of the shipment as specified by the Department of Transportation in 49 CFR 172.202 and 172.203(d);

(iii) A listing of the routes to be used within the state; and

(iv) A statement that the information described below in § 73.37(g)(3) is required by NRC regulations to be protected in accordance with the requirements of § 73.21.

(3) A licensee shall provide the following information on a separate enclosure to the written notification along with a statement that the information is required by NRC regulations to be protected in accordance with the requirements of § 73.21.

(i) The estimated date and time of departure from the point of origin of the shipment;

(ii) The estimated date and time of entry into the governor's state;

(iii) For the case of a single shipment whose schedule is not related to the schedule of any subsequent shipment, a statement that schedule information must be protected in accordance with the provisions of § 73.21 until at least 10 days after the shipment has entered or originated within the state; and

(iv) For the case of a shipment in a series of shipments whose schedules are related, a statement that schedule information must be protected in accordance with the provisions of § 73.21 until 10 days after the last shipment in the series has entered or originated within the state and an estimate of the date on which the last shipment in the series will enter or originate within the state.

(4) A licensee shall notify by telephone or other means a responsible individual in the office of the governor or in the office of the governor's designee of any schedule change that differs by more than 6 hours from the schedule information previously furnished in accordance with paragraph (g)(3) of this section, and shall inform that individual of the number of hours of advance or delay relative to the written schedule information previously furnished.

(h) State officials, state employees, and other individuals, whether or not licensees of the Commission, who receive schedule information of the kind specified in paragraph (g)(3) of this section shall protect that information against unauthorized disclosure as specified in § 73.21.

Dated at Washington, DC, this 5th day of June, 1984.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

➢ **49 FR 30726**
Published 8/1/84
Comment period expires 12/7/84

Access Authorization Program

See Part 50 Proposed Rule Making

➢ **49 FR 30735**
Published 8/1/84
Comment period expires 12/7/84.

10 CFR Part 73

Miscellaneous Amendments Concerning Physical Protection of Nuclear Power Plants

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission is proposing to amend its nuclear power plant safeguards regulations to clarify and refine requirements for the designation and protection of vital locations containing safety-related equipment. The revised requirements are being considered in light of a Commission review of the impact of safeguards requirements on plant safety objectives. The proposed requirements are designed to provide a more safety-conscious safeguards system while maintaining current levels of protection.

DATES: The comment period expires Friday, December 7, 1984. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except for comments received on or before this date..

ADDRESSES: Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Attention: Docketing and Service Branch. Comments may also be delivered to Room 1121, 1717 H Street, NW., Washington, DC, between 8:15 a.m. and 5:00 p.m. Copies of comments received are available for examining and copying at the Commission's Public Document Room at 1717 H Street, NW., Washington, DC. Single copies of draft guidance material may be obtained from the U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Director, Division of Technical Information and Document Control.

FOR FURTHER INFORMATION CONTACT: Tom R. Allen, Chief, Regulatory Activities Section, or Henry S. Blumenthal III, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 427–4010.

SUPPLEMENTARY INFORMATION: Commission experience during the implementation of § 73.55, "Requirements for Physical Protection of Licensed Activities in Nuclear Power Reactors Against Radiological Sabotage," has indicated a need to clarify the policy for the designation and protection of vital areas containing safety-related equipment. Particular concern has been focused on ensuring that security measures do not impede plant safety. Inspections have also indicated that certain physical security equipment is not now protected as vital, despite the fact that this equipment safeguards vital areas containing essential safety-related equipment. In addition, experience with present requirements for key and lock controls indicates that § 73.55 can be modified to provide more flexibility in this area while maintaining adequate plant protection. The Commission believes that the clarification and refinement of requirements, as reflected in these amendments, is appropriate, because they afford the increased assurance of plant safety. A discussion of each of the amendments follows.

Clarification of Vital Area Designation Policy (Vital Islands)

Section 73.55 now requires each licensee to protect all vital areas (areas in which radiological sabotage can be accomplished). Security plans which designate these vital areas were originally accepted by the Commission on an interim basis pending site specific reviews to verify these designations. Many site-specific reviews have been completed. The results indicate that present § 73.55 requirements may be unnecessarily strict in mandating protection of all vital areas.

Many vital areas are configured so that a saboteur must enter two or more areas in order to carry out successful radiological sabotage. In such cases, it is not necessary to protect all of the areas in order to thwart sabotage. The Commission is therefore considering adoption of a clarified vital area designation policy which would require protection only to the extent necessary to interrupt sabotage. Licensees would be given considerable latitude to take advantage of existing barriers and access control points. Certain items, however, would be deemed vital in all cases. These include onsite diesel generators and batteries (excluding electrical distribution systems), reactor containment, control rooms, central alarm station, and onsite water supplies (excluding piping) required for safe shutdown. The Commission specifically invites public comment on the assumptions that should be used to support the vital island designation approach.

Vital Island Protection and Access Control

On March 12, 1980, the NRC published proposed amendments to 10 CFR Part 73 pertaining to nuclear powerplant vital access control (45 FR 15937). Public comment was invited and received. The Commission has significantly revised these requirements to assure adequate access for safety purposes while accomplishing the safeguards objectives. Amendments to 10 CFR 73.55(d)(7) are now proposed that address both nonemergency and emergency access controls to vital islands.

Revised nonemergency controls include (1) the establishment of up-to-date nonemergency access lists, (2) a requirement that access control devices be retrieved from involuntarily terminated individuals prior to or simultaneously with their notification of termination, and (3) a requirement that uncontrolled exterior doors leading to vital islands be locked and alarmed.

Vital island access controls during emergency conditions include (1) a requirement that licensees periodically review physical protection and contigency plans to insure that they do not conflict with safety objectives, and (2) a requirement that licensees develop procedures to facilitate emergency ingress and egress to vital islands (these procedures would include provisions for back-up keys to vital islands and methods of opening locked doors in the event of a computer failure).

Although the amendment to 10 CFR 73.55(d)(7) was subject to a round of public comment, due to the significant rewording now being proposed, the Commission is asking for additional comments.

Authority to Suspend Safeguards Measures During Emergencies

As a result of the Commission's review of potential conflicts between safeguards and safety requirements, consideration is being given to improving licensee's flexibility to respond to site emergencies or "unusual events." The Commission is proposing to revise 10 CFR 73.55(a) to provide authority to licensees to suspend safeguards measures if required to accommodate emergency response.

Protection of Specified Physical Security Equipment

Safeguards inspections have indicated that, in some cases, certain security equipment does not appear to qualify for designation as vital equipment under 10 CFR 73.2(i). The sabotage of this equipment could significantly impact the security of the plant. For example, although 10 CFR 73.55(e)(1) requires that the central alarm station be designated as vital, there is no specific requirement that the emergency power and other support systems necessary for its operation be designated as vital equipment.

Accordingly, the Commission is considering requiring protection of specified onsite physical security equipment necessary for the proper functioning of the security system. This equipment will include secondary power supplies for intrusion alarms and nonportable communications equipment. This action by the Commission is predicated on the belief that this protection is necessary to achieve the general performance requirements of 10 CFR 73.55(a).

Key and Lock Controls

In a matter associated with access control, the Commission is considering amendment of § 73.55(d)(9) to reduce unnecessary costs associated with key and lock controls. The present requirements call for key, lock, and combination changes when any employee who had access to these devices is terminated.

Experience, however, indicates that adequate protection could be obtained by changing keys, locks, and combinations (1) routinely on an annual basis; (2) whenever a person's access authorization is revoked for reasons of lack of trustworthiness, reliability or inadequate performance; and (3) when compromise of locks is suspected.

Environmental Impact: Categorical Exclusion

The NRC has determined that this proposed rule is the type of action described in categorical exclusion 10 CFR 51.22(c)(3). Therefore neither an environmental impact statement nor an environmental assessment has been prepared for this proposed rule.

Paperwork Reduction Statement

The proposed rule has been submitted to the Office of Management and Budget for clearance of the information collection requirements that may be appropriate under the Paperwork Reduction Act (Pub. L. 96–511). The SF-83, "Request for Clearance," Supporting Statement, and related documentation submitted to OMB will be placed in the NRC Public Document Room at 1717 H Street, NW., Washington, D.C. 20555. The material will be available for inspection or copying.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission hereby certifies that these proposed regulations will not, if promulgated, have a significant economic impact on a substantial number of small entities. These proposed regulations affect electric utilities that are dominate in their respective service areas and that own and operate nuclear power plants. These utilities do not fall within the definition of small businesses set forth in Section 3 of the Small Business Act, 15 U.S.C. 632, or within the Small Business Size Standards set forth in 10 CFR Part 121. These proposed regulations will affect some nuclear power industry contractors and vendors all of which are large concerns which service the industry.

Regulatory Analysis

The net increase initial cost to the NRC due to estimated time to be spent in reviewing proposed changes to physical protection plans and conducting field inspections to assure compliance is $299.5K per year initially and $37.4K per year thereafter.

The net increase cost per applicant and licensee in implementing these requirements is estimated to be $1.5M initially and would result in $15K savings per year thereafter.

List of Subjects in 10 CFR Part 73

Hazardous materials-transportation, Nuclear materials, Nuclear power plants and reactors, Penalty, Reporting requirements, Security measures.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, notice is hereby given that adoption of the following amendments to 10 CFR Part 73 is contemplated.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

The authority citation for Part 73 is revised to read as follows:

Authority: Secs. 53, 161, 68, Stat. 930, 948, as amended, sec. 147, 94 Stat. 780 (42 U.S.C. 2073, 2167, 2201); sec. 201, 88 Stat. 1242, as amended, sec. 204, 88 Stat. 1245 (42 U.S.C. 5841, 5844).

Section 73.37(f) is also issued under sec. 301, Pub. L. 96–295, 94 Stat. 789 (42 U.S.C. 5841 note).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S C. 2273); §§ 73.21, 73,37(g), 73.55 are issued under sec. 161b, 68 STAT. 948, as amended (42 U.S.C. 2201(b)); §§ 73.20, 73.24, 73.25, 73.26 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, 73.67 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 73.20(c)(1), 73.24(b)(1), 73.26(b)(3), (h)(6), and (k)(4), 73.27(a) and (b), 73.37(f), 73.40(b) and (d), 73.46(g)(6) and (h)(2), 73.50(g)(2), (3)(iii)(B) and (h), 73.55(h)(2), and (4)(iii)(B), 73.70, 73.71, 73.72 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

2. In §73.2, paragraph (nn) is added to read as follows:

§ 73.2 Definitions.

*   *   *   *   *

(nn) "vital islands" are one or more vital areas(s) protected as a single entity.

3. In § 73.55, the introductory paragraph, paragraph (a), paragraphs (c)(1) and (c)(2), paragraphs (d)(7) and (d)(9), paragraphs (e)(1) and (e)(3), and the introductory paragraph of (h)(4) and (h)(4)(iii)(A) are revised to read as follows:

§ 73.55 Requirements for physicial protection of licensed activities in nuclear power reactors against radiological sabotage.

By (120 days from the effective date of this amendment or 120 days after receipt of a Commission provided site specific vital area review, whichever is later) each licensee shall submit proposed amendments to his security plan which define how the amendment vital island designation and protection requirements of paragraphs (a), (c)(1), (c)(2), (d)(2), (d)(7), (d)(9), (e)(1) and (3) and (h)(4) will be met. Each submittal shall include a proposed implementation schedule for Commission approval. The amended safeguards requirements of these paragraphs must be implemented by the licensee within 180 days after Commission approval of the proposed

security plan in accordance with the approval schedule.

(a) General performance objective and requirements. The licensee shall establish and maintain an onsite physical protection system and security organization which will have as its objective to provide high assurance that activities involving special nuclear material are not inimical to the common defense and security and do not constitute an unreasonable risk to the public health and safety. The physical protection system shall be designed to protect against the design basis threat of radiological sabotage as stated in § 73.1(a). To achieve this general performance, objective, the onsite physical protection system and security organization shall include, but not necessarily be limited to, the capabilities to meet the specific requirements contained in paragraphs (b) through (h) of this section. The Commission may authorize an applicant or licensee to provide measures for protection against radiological sabotage other than those required by this section if the applicant or licensee demonstrates that the measures have the same high assurance objective as specified in this paragraph and that the overall level of system performance provides protection against radiological sabotage equivalent to that which would be provided by paragraphs (b) through (h) of this section and meets the general performance requirements of this section. Specifically, in the special cases of licensed operating reactors with adjacent reactor power plants under construction, the licensee shall provide and maintain a level of physical protection of the operating reactor against radiological sabotage equivalent to the requirements of this section. The site supervisor or other individual designated in the licensee's physical protection plan shall have the authority to suspend any safeguards measure pursuant to this section if the suspension is necessary to facilitate response to emergency conditions, provided that all safeguards measures are restored as soon as practicable following such an emergency.

* * * * *

(c) *Physical barriers.* (1) the licensee shall locate vital equipment within a vital area, which in turn shall be located within a protected area. One or more vital areas may constitute a vital island. Vital islands shall be configured to ensure that an individual must gain access to a vital island to accomplish sabotage resulting in a significant radiological release or reactor core damage or both. Access to vital islands must require passage through at least two physical barriers of sufficient strength to meet the performance requirements of paragraph (a) of this section. More than one vital island may be located within a single protected area. The licensee shall protect, as independent vital islands, onsite alternating and direct current emergency power sources (excluding electrical distribution systems) required to permit functioning of structures, systems and components important to safety, primary reactor containment, the reactor control room, central alarm station, and onsite water supplies (excluding piping) required for achieving plant hot shutdown or hot standby.

(2) The physical barriers at the perimeter of the protected area must be separated from any other barrier designated as a physical barrier for a vital island within the protected area.

* * * * *

(d) Access requirements. * * *

(7) The licensee shall:

(i) Establish an access authorization system to limit unescorted access to vital islands during nonemergency conditions to individuals who require access in order to perform their duties. To achieve this the licensee must:

(A) Establish current authorization access lists for each vital island. The access lists must be updated and reapproved by the cognizant licensee manager or supervisor at least every 31 days. The licensee shall include on the access list only individuals whose specific duties require access to vital islands during nonemergency conditions.

(B) Positively control, in accordance with the access list establish pursuant to paragraph (d)(7)(i) of this section, all points of personnel and vehicle access to vital islands.

(C) Revoke, in the case of an individual's involuntary termination for cause, the individual's access authorization and retrieve his/her identification badge and other entry devices, as applicable, prior to or simultaneously with notifying this individual or his/her termination.

(D) Lock and protect by an active intrusion alarm system unoccupied vital islands and all exterior doors leading to vital islands which are not otherwise controlled.

(ii) Design the access authorization system to accommodate the potential need for rapid ingress or egress of individuals during emergency conditions or situations that could lead to emergency conditions. To help assure this, the licensee must:

(A) Ensure prompt access to vital equipment.

(B) Periodically review physical security plans and contingency plans and procedures to evaluate their potential impact on plant and personnel safety.

* * * * *

(9) All keys, locks, combinations, and related equipment used to control access to protected areas and vital islands must be controlled to reduce the probability of compromise. All such keys, locks, and combinations must be changed at least every 12 months. Whenever there is evidence or suspicion that any key, lock, combination, or related equipment may have been compromised, it must be changed. The licensee shall issue keys, locks, combinations, and other access control devices to protected areas and vital islands only to persons who possess access authorization in accordance with § 73.56 of this part. Whenever an individual's access authorization is revoked due to his or her lack of trustworthiness, reliability, or inadequate work performance, keys, locks, combinations, and related equipment to which that person had access must be changed.

(e) *Detection aids.* (1) All alarms requirement pursuant to this part must annunicate in a continuously manned central alarm station located within the protected area and in at least one other continuously manned station not necessarily onsite, so that a single act cannot remove the capability of calling for assistance or otherwise responding to an alarm. The onsite central alarm station shall be located within a building such that the interior of the central alarm station is not visible from the perimeter of the protected area. This station shall not contain any operational activities that would interfere with the execution of the alarm response function. The walls, doors, floor, and any windows in the walls and in the doors of the central alarm station shall be bullet resisting. On site secondary power supply systems for alarm annunciator equipment and non-portable communications equipment as required in paragraph (f) of this section must be located within vital islands.

* * * * *

(3) The licensee shall alarm all emergency exits in each protected area and each vital island.

* * * * *

(h) Response requirement. * * *

(4) Upon detection of abnormal presence of activity or persons or vehicles within an isolation zone, a protected area, material access area, or a vital island; or upon evidence or indication of intrusion into a protected area, a material access area, or a vital island, the licensee security organization must:

* * * * *

(iii) * * *

(A) Requiring responding guards or other armed response personnel to interpose themselves between vital islands and material access areas and any adversary attempting entry for the purpose of radiological sabotage or theft of special nuclear material and to intercept any person exiting with special nuclear material, and

* * * * *

4. In § 73.70, paragraph (d) is revised to read as follows:

§ 73.70 Records.

* * * * *

(d) A log indicating name, badge number, time of entry, reason for entry, and time of exit of all individuals granted access to a vital island except those individuals entering or exiting the reactor control room.

* * * * *

Dated at Washington, DC, this 27th day of July 1984.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

➤ 49 FR 30738
Published 8/1/84
Comment period expires 12/7/84.

10 CFR Part 73

Searches of Individuals at Power Reactor Facilities

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission is proposing an amendment to its requirements for entry searches at power reactor facilities. This regulation is needed to clarify requirements for searches of individuals at these facilities. This amendment requires equipment searches of all individuals seeking access to protected areas except on-duty peace officers, and pat-down searches when detection equipment fails, or cause to suspect exists. This proposed amendment will support the Commission's goal of increased assurance that power reactors are adequately protected against sabotage by an insider.

DATES: The comment period expires Friday, December 7, 1984. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date.

ADDRESSES: Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch. Comments may also be delivered to Room 1121, 1717 H Street NW., Washington, DC, between 8:15 a.m. and 5:00 p.m. Copies of comments received are available for examining and copying for a fee at the Commission's Public Document Room at 1717 H Street NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Tom R. Allen, Chief, Regulatory Activities Section, or Henry S. Blumenthal III, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 427–4010.

SUPPLEMENTARY INFORMATION: On December 1, 1980, the Commission extended the implementation date for pat-down searches at power reactors until revised search procedures could be written in physical protection plans and approved (45 FR 79410). At the same time, the Commission issued proposed revisions to 10 CFR 73.55(d)(1) to finalize requirements for personnel searches at protected area entry portals of power reactors, (45 FR 79492).

The Commission invited and received public comment on the proposed amendments. Comments were received from 25 utilities, three industry coordination organizations, one equipment manufacturer, one government agency, and two private citizens. The Commission has now revised the rule concerning search requirements in light of the public comments and in response to recommendations made by the Safety/Safeguards Review Committee. This Committee had the overall task of studying power reactor safeguards requirements and practices to determine whether actual or potential conflicts exist with plant safety objectives.

The Commission is now proposing that all persons entering the protected area of nuclear power plants (except on-duty law enforcement officers) be searched using metal detectors and explosive detectors. This proposed amendment differs from the current interim procedures in that visitors would be subject to routine equipment searches rather than physical "pat-down" searches. "Pat-down" searches would be required only when the licensee has cause to suspect that an individual is attempting to introduce contraband (firearms, explosives, or incendiaries), or when the detection equipment is out of service. The exemption for on-duty law enforcement officers has been added as a matter of practicality.

The Commission had considered the use of random searches for screened individuals, but the Safety/Safeguards Review Committee found that most licensees have successfully adjusted to 100% equipment searches, and believe that changing to random searches would be disruptive.

The search requirement amendment is being republished because of its interrelationship with the proposed Access Authorization Rule.

Environmental Impact: Categorical Exclusion

The NRC has determined that this proposed rule is the type of action described in categorical exclusion 10 CFR 51.22(c)(3). Therefore neither an environmental impact statement nor an environmental assessment has been prepared for this proposed rule.

Paperwork Reduction Act

The proposed rule has been submitted to the Office of Management and Budget for clearance of the information collection requirements that may be appropriate under the Paperwork Reduction Act (Pub. L. 96–511). The SF–83, "Request for Clearance," Supporting Statement, and related documentation submitted to OMB will be placed in the NRC Public Document Room at 1717 H Street NW., Washington, D.C. 20555. The material will be available for inspection or copying.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission hereby certifies that these proposed regulations will not, if promulgated, have a significant economic impact on a substantial number of small entities. These proposed regulations affect electric utilities that are dominant in their respective service areas and that own and operate nuclear power plants. These utilities do not fall within the definition of small businesses set forth in Section 3 of the Small Business Act, 15 U.S.C. 632, or within the Small Business Size Standards set forth in 10 CFR Part 121. These proposed regulations will affect some nuclear power industry contractors and vendors all of which are large concerns which service the industry.

Regulatory Analysis

The net increase initial cost to the NRC due to estimated time to be spent in reviewing proposed changes to physical protection plans is $46.1K initially and $5.8K per year thereafter.

Implementation of these revised requirements as proposed herein would not represent any increase costs to present licensees because required firearms and explosives detection equipment is currently in place at most reactor sites.

List of Subjects in 10 CFR Part 73

Hazardous materials—transportation, Nuclear materials, Nuclear power plants and reactors, Penalty, Reporting requirements, Security measures.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, notice is hereby given that adoption of the following amendment to 10 CFR Part 73 is contemplated.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

1. The authority citation for Part 73 is revised to read as follows:

Authority: Secs. 53, 161, 68 Stat. 930, 948, as amended, sec. 147, 94 Stat. 780 (42 U.S.C. 2073, 2167, 2201); sec. 201, 88 Stat. 1242, as amended, sec. 204, 88 Stat. 1245 (42 U.S.C. 5841, 5844).

Section 73.37(f) is also issued under sec. 301, Pub. L. 96–295, 94 Stat. 789 (42 U.S.C. 5841 note).

For the purposes of sec. 223, 68 Stat. 958, as amended 42 U.S.C. 2273); §§ 73.21, 73.37(g), 73.55 are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); §§ 73.20, 73.24, 73.25, 73.26, 73.27, 73.37, 73.40, 73.45, 73.46, 73.50, 73.55, 73.67 are issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i)); and §§ 73.20(c)(1), 73.24(b)(1), 73.26(b)(3), (h)(6), and (k)(4), 73.27(a) and (b), 73.37(f), 73.40(b) and (d), 73.46(g)(6) and (h)(2), 7350(g)(2), (3)(iii)(B) and (h), 73.55(h)(2) and (4)(iii)(B), 73.70, 73.71, 73.72 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

§ 73.55 [Amended]

2. In § 73.55, paragraph (d)(1) is revised to read as follows:

* * * * *

(d) *Access Requirements.*—(1) The licensee shall control all points of personnel and vehicle access into a protected area. Identification and search of all individuals unless otherwise provided herein must be made and authorization must be checked at these points. The search function for detection of firearms, explosives and incendiary devices shall be accomplished through the use of both firearms and explosive detection equipment capable of detecting those devices. The licensee shall subject all persons except bona fide federal, state, and local law enforcement personnel on official duty to these equipment searches upon entry into a protected area. When the licensee has cause to suspect that an individual is attempting to introduce firearms, explosives, or incendiary devices into protected areas, the licensee shall conduct a physical pat-down search of that individual. However firearms or explosives detection equipment at a portal is out of service or not operating satisfactory, the licensee shall conduct a physical pat-down search of all persons who would otherwise have been subject to equipment searches. The individual responsible for the last access control function (controlling admission to the protected area) shall be isolated within a bullet-resisting structure as described in paragraph (c)(6) of this section to assure his or her ability to respond or to summon assistance. By (120 days from the effective date of this amendment) each licensee shall submit revisions to its security plan which define how the final search requirements of this paragraph will be met. The final search requirements of this package must be implemented by the licensee within 60 days after Commission approval of the proposed security plan revision.

* * * * *

Dated at Washington, DC, this 27th day of July 1984.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission.

≫ **49 FR 48200**
Published 12/11/84

Access Authorization Program; Miscellaneous Amendments Concerning Physical Protection of Nuclear Power Plants; Searches of Individuals at Power Reactor Facilities; Extension of Comment Period

See Part 50 Proposed Rule Making

PART 73

PHYSICAL PROTECTION OF PLANTS AND MATERIALS

PETITIONS FOR RULE MAKING

42 FR 46431
Published 9/15/77
Comment period expires 10/17/77

[Docket No. PRM-73-2]

WISCONSIN ELECTRIC POWER CO., ET AL.

Filing of Petition for Rulemaking

Notice is hereby given that Gerald Charnoff, Esquire, and Jay E. Silberg, Esquire have filed with the Commission on behalf of the Wisconsin Electric Power Co., Wisconsin Public Service Corp., and Baltimore Gas and Electric Co. a petition for rulemaking dated August 19, 1977.

The petitioners request the Commission to amend § 73.55(d)(1) of the Commission's regulation "Physical Protection of Plants and Materials," 10 CFR Part 73, to eliminate the requirement for "pat-down" physical searches of individuals entering a protected area.

The amendments proposed by the petitioners would modify 10 CFR 73.55 (d)(1) by deleting the bracketed words and adding the italized language as follows:

§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against industrial sabotage.

* * * * *

(d) Access requirements. (1) The licensee shall control all points of personnel and vehicle access to a protected area. Identification and search of all individuals shall be made and authorization shall be checked at such points. *The licensee shall post signs at such points informing individuals that they may be subject to physical search prior to entering a protected area.* The search function for detection of firearms, explosives and incendiary devices shall be conducted [either by a physical search or] by use of equipment capable of detecting such devices, *to the extent such equipment is reasonably available. The licensee may conduct a physical search of an individual if deemed necessary or appropriate.* The individual responsible for the last access control function (controlling admission to the protected area) shall be isolated within a bullet-resisting structure as described in paragraph (c)(6) of this section to assure their ability to respond or to summon assistance.

The petitioners state that a requirement for a "pat-down" physical search is unnecessary in view of the other protective measures which are required, the absence of such a requirement for other (and more sensitive) facilities, and the serious problems which the physical search requirement imposes. The petitioners state, however, that "pat-down" physical searches should be permitted in any case where security personnel are suspicious about an individual, and signs should be posted that individuals entering a protected area may be subject to physical search.

The Commission is assessing the implications of "pat-down" searches and their value as a part of a total physical protection system, considering their relation to other features of security systems required by the rule that affect access controls intended to protect with high confidence against insiders. It is endeavoring to identify alternatives that will achieve equivalent protection in the context of the total security system. Public comments are solicited specifically on such alternatives, and further opinions as to the value of searches as a contributing element of security systems.

A copy of the petition for rule making is available for public inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

All persons who desire to submit written comments or suggestions concerning the petition for rule making should send their comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch by October 17, 1977.

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43 FR 29635
Published 7/10/78
Comment period expires 9/8/78

[Docket No. PRM-73-3]

KMC, INC., ET AL.

Filing of Petition for Rulemaking

Notice is hereby given that KMC, Inc., on behalf of itself and 20 utilities listed in attachment A to the petition, has filed with the Nuclear Regulatory Commission a petition for rulemaking dated June 9, 1978.

The petitioners request the Commission to amend section 73.55, requirements for physical protection of licensed activities in nuclear power reactors against industrial sabotage, of the Commission's regulation "Physical Protection of Plants and Materials," 10 CFR Part 73, to include a statement that meeting the specific requirements normally will satisfy the performance requirements for physical protection at nuclear power plants.

The amendments proposed by the petitioners would modify § 73.55(a)(2) by deleting the words in brackets and adding the words in italics, as follows:

§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against industrial sabotage.

* * * * *

(a) General performance requirements. The licensee shall establish and maintain an onsite physical protection system and security organization which will provide protection with high assurance against successful industrial sabotage by both of the following:

(2) An internal threat of an insider, including an employee (in any position). [In meeting these general performance requirements, the onsite physical protection system and security organization shall include, but not necessarily be limited to, the capabilities to meet the specific requirements contained in paragraphs (b) through (h) of this section]. *Generally performance requirements shall be deemed to be met by meeting the detailed requirements of (b) through (h) of this section.* * * *

* * * * *

The petitioners state that:

> Experience gained by the utilities in proposing implementation measures to meet the rule has shown that the staff has not accepted the detailed provisions as satisfying the performance requirement. Rather, they have held that additional features beyond the requirements set forth in the rule are necessary to meet the performance requirements. The staff's views in meeting 10 CFR 73.55(a), particularly the threat of the insider, have been discussed in numerous forums and are found in the following published draft documents or internal staff guidance: * * *

A Memorandum of Petitioners in Support of Proposed Rulemaking is attached as attachment B to the petition which sets forth the petitioners' justification for the proposed amendment of 10 CFR 73.55(a)(2). In this memorandum the petitioners state that:

If the final regulation were administered as the Commission has signified its intent that there would be no need for a petition for rulemaking. This, however, has not been the case as the staff has used this open-ended requirement as its basis to attempt to ratchet licensees to commit to additional and, in some cases unusual, security features to meet the threat of the assumed insider. Although there are many examples where the staff has developed interpretations in excess of the regulatory requirements stating that the justification is the general performance criteria, the most onerous example is access control to Vital Areas with attendant two-man rule or subcompartmentalization.

A copy of the petition for rulemaking is available for public inspection in the Commission's Public Document Room, 1717 H Street NW., Washington, D.C. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

All persons who desire to submit written comments or suggestions concerning the petition for rulemaking should send their comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch by September 8, 1978.

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47 FR 6657
Published 2/16/82

10 CFR Part 73

[Docket No. PRM-73-8]

Elimination of Required Search of Hand-Carried Packages of Personnel at Nuclear Power Plants

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of receipt of petition for rulemaking from Wisconsin Electric Power Company, et al.

SUMMARY: The Nuclear Regulatory Commission is publishing for comment a petition for rulemaking dated December 2, 1981 filed on behalf of the Wisconsin Electric Power Company, et al. The petition requests changes in 10 CFR Part 73, "Physical Protection of Plants and Material," which would eliminate "* * * the requirement for searches of hand-carried personal effects of screened employees entering a protected area" of a nuclear power plant. The petitioners contend that the "* * * requirement is unnecessary as demonstrated by the absence of such searches in comparable Federal programs. The requirement is also an ineffective means of preventing insiders from sabotaging the plant." The petition includes proposed amendatory text which would achieve this requested change.

DATES: Comments must be received on or before April 19, 1982. Comments received after April 19, 1982, will be considered if practical to do so but assurance of consideration cannot be given except as to comments received on or before this date.

ADDRESSES: Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555, Attention: Docketing and Service Branch. Comments may also be hand-delivered to Room 1121, 1717 H Street, NW., Washington, D.C., between 8:15 a.m. and 5:00 p.m. A copy of the petition and the memorandum in support of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555. Comments on the petition may be inspected and copied at the NRC's Public Document Room, 1717 H Street, NW., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: John D. Philips, Chief, Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone: (301) 492-7086. Toll-free: (800) 368-5642.

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission has received a petition for rulemaking filed on behalf of the Wisconsin Electric Power Company, the Public Service Electric and Gas Company, the Commonwealth Edison Company, the Yankee Atomic Electric Company, the Northern States Power Company, and the Sacramento Municipal Utility District which would amend 10 CFR Part 73, "Physical Protection of Plants and Material," specifically § 73.55(d)(2), to eliminate "* * * the requirement for searches of hand-carried personal effects of screened employees entering a protected area" of a nuclear power plant.

In the memorandum in support of the petition, the petitioners review the access control requirements, other than the search of hand-carried personal effects of employees, which are set forth in § 73.55(d). The petitioners list 21 requirements, other than the search requirement, which the petitioners contend "* * * provided more than adequate control over employee access to the protected areas of * * *" nuclear power plants. The petitioners also state that most nuclear power plant licensees have implemented personnel screening programs involving a background investigation and psychological screening of employees. The petitioners also suggest that "* * * if an intelligent insider wants to attempt to sabotage a nuclear power reactor, he needs nothing from outside the plant. There are already items within the plant which would serve the same function as anything an insider could bring in. Therefore, searches of hand-carried packages for items which could be used for sabotage generally are ineffective means of providing security." The petitioners suggest that § 73.55(d) be modified "* * * to permit physical searches on suspicion and to inform all employees prior to entering a protected area that they may be search * * * (thereby giving) further assurance to the security program."

The petitioners also note that the anti-hijacking precautions in effect for all commercial airlines would appear to call for measures at least as strict as those for nuclear power plants. Yet, the petitioners state, government regulations in this area do not require searches of hand-carried personal effects of cleared or otherwise authorized employees.

Finally, petitioners contend that the search requirement creates low morale among utility employees and causes "significant delays * * * in processing large numbers of people, particularly during outages when the number of workers coming onto the site increase dramatically. This added time may result in additional costs to the utility in terms of reduced productivity or requests for additional compensation. Larger guard forces may also be required in an attempt to reduce the delay."

The petitioners included a proposed amendment to § 73.55 by adding the text included in the enclosed arrows as provided below:

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

1. Paragraph (d)(2) of § 73.55 is revised to read as follows:

§ 73.55 Requirements for physical protection of licensed activities in nuclear power reactors against radiological sabotage.

* * * * *

(d) * * *

(2) At the point of personnel and vehicle access into a protected area, all hand-carried packages shall be searched for devices such as firearms, explosives, and incendiary devices, or other items which could be used for radiological

sabotage, ►except those hand-carried personal effects carried by employees of the licensee who have been screened under an employee screening program consistent with American National Standard ANSI N18.17, "Industrial Security for Nuclear Power Plants," and who, at the access point are positively identified by personal recognition or show an appropriate badge containing sufficient information to positively indicate the identity of the bearer. When the licensee has cause to suspect that such an employee is attempting to introduce firearms, explosives or incendiary devices, or other items which could be used for radiological sabotage into a protected area, the licensee shall conduct a search of the hand-carried packages of that employee. The licensees shall post signs at all points of personnel and vehicle access into a protected area informing regular employees that their hand-carried packages may be subject to search prior to entering the area.◄

* * * * *

Dated at Washington, D.C., this 9th day of February 1982.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

47 FR 6656
Published 2/16/82

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10 CFR Part 73

[Docket No. PRM-73-7]

Elimination of Required Log Out of Personnel From Vital Areas of Nuclear Power Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of receipt of petition for rulemaking from Wisconsin Electric Power Company, et al.

SUMMARY: The Nuclear Regulatory Commission is publishing for comment a petition for rulemaking dated December 2, 1981 filed on behalf of the Wisconsin Electric Power Company, et al. The petition requests changes in 10 CFR Part 73, "Physical Protection of Plants and Materials," which would eliminate "* * * the log out requirement at nuclear power reactors for individuals given access to normally unoccupied vital areas." The petitioners contend that the "* * * requirement not only is unnecessary from a safety standpoint, but may be detrimental to safe plant shutdown and effective plant response to other emergencies. Moreover, other more sensitive facilities have no similar requirement." The petition includes proposed amendatory text which would achieve this requested change.

DATES: Comments must be received on or before April 19, 1982. Comments received after April 19, 1982, will be considered if practical to do so but assurance of consideration cannot be given except as to comments received on or before this date.

ADDRESS: Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Comments may also be hand-delivered to Room 1121, 1717 H Street, NW., Washington, D.C. between 8:15 a.m. and 5:00 p.m. A copy of the petition and the memorandum in support of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Comments on the petition may be inspected and copied at the NRC's Public Document Room, 1717 H Street, NW., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: John D. Philips, Chief, Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone: (301) 492-7086. Toll-free: (800) 368-5642.

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission has received a petition for rulemaking filed on behalf of the Wisconsin Electric Power Company, the Public Service Electric and Gas Company, the Commonwealth Edison Company, the Yankee Atomic Electric Company, the Northern States Power Company, and the Sacramento Municipal Utility District which requests elimination of "* * * the log out requirement at nuclear power reactors for individuals given access to normally unoccupied vital areas."

The petitioners, in an accompanying memorandum in support of the petition, state that "* * * the logging out of individuals from vital areas at nuclear power plants is unnecessary in view of the other protective measures required, the absence of such a requirement for other more sensitive types of facilities, and the potential disruption of safe plant shutdown and prompt response to other emergencies."

In support of this statement, the petitioners review the requirements for nuclear power plant physical security plans set forth at §§ 73.55(d) and 73.70 and list 30 requirements, other than the log out requirement, which the petitioner contends "* * * provide more than adequate control over access to protected areas of the plant." The petitioners also note that most nuclear power plant licensees have implemented personnel screening programs involving a background investigation and psychological screening of employees. Thus, "* * * a log out requirement for regular plant personnel who have been screened, badged, searched and logged into vital areas is totally unnecessary for plant safety."

Also in support of the petition, the petitioners review other Federal agencies which have responsibilities over facilities they say are more sensitive than commercial nuclear power reactors and which do not have log out requirements for the vital areas of these facilities. These facilities include "nuclear weapons storage areas, military nuclear research facilities and many military bases * * *", which do have access control requirements but which do not include a log out requirement. The petition concludes that "if logging out is deemed unnecessary for three types of facilities, then logging out surely is unnecessary at less sensitive nuclear power reactors."

Thirdly, in support of the petition, the petitioners contend "* * * the log out requirement may be detrimental to safe plant shutdown and effective plant response to emergencies." The petitioners state that:

> There are a number of log out systems presently in use at vital areas of nuclear power reactors; some, for example, require an employee to insert a computer card into a card reader on the inside of the door to the area before exiting; other systems have only a button on the inside of the area to release the door, but require an employee to insert the card into a reader on the outside of the door before leaving the area. Under either system, if an employee fails to log out of an area, he or she will be restricted from gaining access to other vital equipment or areas until security personnel have manually instructed the computer.
>
> A number of practical problems are caused by this logging out requirement. During an emergency or when bringing the plant to safe shutdown, plant personnel may easily forget to log out of a vital area, thereby delaying their entry into other vital areas and seriously hampering effective plant responses. During heavy traffic periods when the computer is busy, the logging out process may be greatly slowed, causing frustration and preventing employees from moving quickly from one vital area to another.
>
> Under certain log out systems, when an individual forgets to log out of one vital area and tries to enter a second vital area, an alarm is sounded and a CAS (Central Alarm Station) or SAS (Secondary Alarm Station) operator must respond. The operators are thus diverted to handling unimportant matters when they should be performing surveillance.

The log out requirement causes an additional problem in essentially doubling the use of the plant computer. During heavy traffic periods, the computers are so greatly burdened that their speed is reduced, causing inconvenience and frustration and increasing the likelihood of computer failure. Moreover, the increased wear and tear on the computer's hardware increases the incidence of component failure and required maintenance.

It has been suggested that log out information is helpful in the event of a material theft or tampering with equipment in a vital area. In such cases, it is argued, logging out identifies the exact time during which all individuals were present in a vital area and facilitates any subsequent investigation. The petitioners point out, however, that because it is often difficult to isolate the exact time when such an event may have taken place, it is necessary to investigate all persons who logged into a vital area during a period of several hours, or a day. Thus, the critical information is not when a person logged out of a vital area, but when the person logged into the area. While it is true that log out information may be somewhat useful, it will never obviate the need for a complete check of all personnel who logged into an area. More importantly, any marginal benefit from log out information is far outweighed by the danger of delay to plant emergency response time which may be caused by logging out.

The petitioners included a proposed amendment to § 73.70(d) by adding the text in the enclosed arrows as provided below.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

1. Paragraph (d) of § 73.70 is revised to read as follows:

73.70 Records.

* * * * *

(d) A log indicating name, badge number, time of entry, reason for entry, and time of exit of all individuals granted access to a normally unoccupied vital area, ►except that a log kept by each licensee subject to the provisions of § 73.55 need not indicate the time of exit of the above-mentioned individuals.◄

* * * * *

Dated at Washington, D.C., this 10th day of February 1982.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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47 FR 6659
Published 2/16/82

10 CFR Part 73

[Docket No. PRM-73-6]

Modification of Qualifications for Security Personnel of Nuclear Power Plants and Other Special Nuclear Material Licensees

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of receipt of petition for rulemaking from Wisconsin Electric Power Company, et al.

SUMMARY: The Nuclear Regulatory Commission is publishing for comment a petition for rulemaking dated December 2, 1981 filed on behalf of the Wisconsin Electric Power Company, *et al.* The petition requests changes in 10 CFR Part 73, specifically Appendix B entitled "General Criteria for Security Personnel," which would eliminate the requirement that armed security personnel at nuclear power plants or other facilities licensed to handle special nuclear material (1) carry an extra pair of eyeglasses and (2) Under an annual medical examination within the preceding thirty days of an annual physical fitness test. The petitioners contend that these requirements are "excessive and unreasonable" when compared to similar requirements for security personnel in other government agencies or in operations with security requirements commensurate with those of nuclear power plants. The petition includes proposed amendatory text which would achieve these modified requirements.

DATES: Comments must be received on or before April 19, 1982. Comments received after April 19, 1982, will be considered if practical to do so but assurance of consideration cannot be given except as to comments received on or before this date.

ADDRESSES: Comments should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Comments may also be hand-delivered to Room 1121, 1717 H Street, N.W., Washington, D.C. between 8:15 a.m. and 5:00 p.m. A copy of the petition and the memorandum is support of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Comments on the petition may be inspected and copie at the NRC's Public Document Room, 1717 H Street, N.W., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: John D. Philips, Chief, Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C., 20555. Telephone: (301) 492-7086. Toll-free: (800) 368-5642.

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission has received a petition for rulemaking filed on behalf of the Wisconsin Electric Power Company, the Public Service Electric and Gas Company, the Commonwealth Edison Company, the Yankee Atomic Electric Company, the Northern States Power Company, and the Sacramento Municipal Utility District which requests changes in the qualifications for security personnel included in 10 CFR Part 73, Appendix B, entitled "General Criteria for Security Personnel."

Specifically, the changes requested would eliminate (1) the requirement that armed security personnel at nuclear power plants or other facilities licensed to handle special nuclear material carry an extra pair of eyeglasses and (2) the requirement that these security personnel undergo an annual medical examination within the preceding thirty days of an annual physical fitness test.

The petitioners, in an accompanying memorandum in support of the petition, state that "* * * the requirement for security personnel to carry an extra pair of corrective lenses is an unnecessary nuisance to those personnel. It also makes them subject to harassing inspections to check for their second set of eyeglasses or contact lenses." The petitioners also state that other Federal and state agencies, including "* * * the military services, the FBI, the Immigration Service, Bureau of Alcohol, Tobacco, and Firearms, the Customs Service, the GSA, the District of Columbia Police Department or the Maryland State Police (do not) require security personnel to carry an extra pair of corrective lenses if their uncorrected eyesight falls below a certain level. This NRC requirement thus appears overly stringent. Moreover, the requirement is often difficult to satisfy because carrying an extra pair of glasses often leads to breakage or loss. Consequently, compliance can become an ineffective yet costly exercise."

Regarding the requirement that security personnel undergo an annual medical examination within thirty days of an annual physical fitness test, the petitioners "* * * suggest that the two types of test need not be tied to the same schedule, and that the frequency of medical examinations should vary with age." The petitioners do "* * * recognize the importance of regular physical fitness testing and medical examinations for security personnel * * * " and state that, under the revised language proposed in the petition, "existing requirements for additional medical examinations following serious illness, injury, disease or operation would not be affected." The petitioners review the physical fitness and medical examination requirements of the various branches of the military service, the FBI, and similar enforcement-related organziations with "* * * responsibilities of equal or greater sensitivity than those of security officers at nuclear power plants * * * (and conclude) that the present NRC requirements are excessively strict. In view of the requirements in the military and at other federal and state agencies, the petitioners recommend elimination of the Commission's present requirement tying medical examinations to physical fitness testing schedules and modification of the Commission's overly rigid medical examination schedule for young employees while maintaining all other requirements in the existing qualification program."

The petitioners included proposed amendments to the text of portions of Appendix B to Part 73, which are included below. The text in the bracketed portion would be removed and the text enclosed in arrows would be added.

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

1. In the criteria heading of Appendix B to Part 73, sections I.B.1.b.(1)(a), I.C., and I.E. are revised to read as follows:

Appendix B—Criteria for Security Personnel

* * * * *

Criteria

I. *Employment suitability and qualification.*

* * * * *

B. *Physical and mental qualifications*—1. *Physical qualifications.*

* * * * *

b. * * *

(1) *Vision.* (a) For each individual, distant visual acuity in each eye * * * or contact lenses. [If uncorrected distance vision is not at least 20/40 in the better eye, the individual shall carry an extra pair of corrective lenses.] Near visual acuity, corrected or uncorrected, shall be at least 20/40 in the better eye. Field vision must be at least 70° horizontal meridian in each eye. The ability to distinguish red, green, and yellow colors is required. Loss of vision in one eye is disqualifying, unless controlled by acceptable medical or surgical means, provided such medications as may be used for controlling glaucoma do not cause undesirable side effects which adversely affect the individual's ability to perform assigned security job duties, and provided the visual acuity and field of vision requirements stated above are met. On-the-job evaluation shall be used for individuals who exhibit a mild color vision defect.

* * * * *

C. *Physical fitness qualifications*—[Subject to a medical examination conducted within the preceding 30 days * * * as disclosed by the medical examination.] Guards, armed response personnel and armed escorts, shall demonstrate physical fitness for assigned job duties by performing a practical physical exercise program within a specific time period. The exercise program performance objectives shall be described in the licensee training and qualification plan, and shall consider such job related functions as strenuous activity, physical exertion, levels of stress, and exposure to the elements as they pertain to each individual's assigned security job duties for both normal and emergency operations. The physical fitness qualifications of each guard, armed response person, and armed escort shall be documented and attested by a licensee security supervisor.

* * * * *

E. *Physical requalification*—At least every 12 months, [central alarm station operators shall be required to meet the physical requirements of B.1.b. of this section and] guards, armed response personnel and armed escorts, shall be required to meet the physical requirements of paragraphs [B.1.b. (1) and (2), and] C of this section. ►At least every 36 months until the age of thirty-nine, and every 12 months after the age of thirty-nine, guards, armed response personnel, and armed escorts shall be required to meet the physical requirements of paragraphs B.1.b. (1) and (2) of this section, and central alarm station operators shall be required to meet the physical requirements of B.1.b. of this section.◄

* * * * *

Dated at Washington, DC, this 10th day of February 1982.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

≫ 48 FR 28282

Published 6/21/83

See Part 50 Petition For Rule Making

PART 73

PHYSICAL PROTECTION OF PLANTS AND MATERIALS

STATEMENTS OF CONSIDERATION

38 FR 35430
Published 12/28/73

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of Title 5 of the United States Code, the Atomic Energy Commission's regulation 10 CFR Part 73 is hereby republished as a document subject to codification for the purpose of incorporating into one document all amendments to the regulation to date including the amendments published in the Federal Register on November 6, 1973. In republishing Part 73 a number of editorial changes have been made, including clarification of the effective date of a number of sections.

40 FR 52840
Published 11/13/75
Effective 12/15/75

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Advance Notice of Certain Shipments of Special Nuclear Material

On April 4, 1975, the Nuclear Regulatory Commission (NRC) published in the Federal Register (40 FR 15098) proposed amendments to its regulations in 10 CFR Part 73 to require that advance notice of shipments involving certain quantities of special nuclear material (SNM) be provided to the NRC, and that the NRC be notified upon arrival of such shipments. Interested persons were invited to submit comments and suggestions for consideration in connection with the proposed amendments within 30 days after publication in the Federal Register. Upon consideration of the comments received and other factors involved, the NRC has adopted the proposed amendments with certain modifications set forth below.

Significant differences from the amendments published for comment are: (1) the amount of information to be supplied in the advance shipping notice has been reduced; (2) in addition to notifying the NRC Inspection and Enforcement Regional Office by mail, the licensee is required to notify the Director of the appropriate Regional Office by telephone seven days in advance of the shipping date that an advance shipping notice had been sent by mail; (3) the requirement for advance shipping notice is not applicable to spent fuel shipments, and would also not be applicable to shipments or transfers of SNM by road with one way transit times of one hour or less in duration between installations of a licensee; (4) telephone *and* telegraph or teletype notifications are required when the shipment arrives at its destination in all cases; (5) and a definition of the appropriate NRC Regional Inspection and Enforcement Office to be notified of shipments has been added.

The following discussion pertains to items (1) through (5) respectively:

(1) The proposed rule specified that the advance notice of shipment contain information as specified in § 73.70(g). Comments on this requirement indicated that some of the information in proposed § 73.70(g) is not available seven days in advance of a shipment. Accordingly this provision has been revised to require only the following information in the advance shipping notice: shipper, receiver, carrier(s), estimated date and time of departure and arrival, transfer points, and modes of shipment.

(2) A telephone call to the Director of the appropriate NRC Inspection and Enforcement Regional Office assures that the Regional Office would be alerted to the fact that advance shipping information details were being sent by mail. Appropriate action could be taken if the information did not arrive as expected.

(3) Several commenters requested clarification on whether the advance shipping notice was required for spent fuel shipments. It was not intended that the advance shipping notice apply to spent fuel shipments. Accordingly, § 73.6 has been revised to except spent fuel shipments from the requirement for an advance shipping notice. Additionally, one commenter requested that inter-site shipments between closely spaced installations also be excluded from the requirement of an advance shipping notice. Section 73.72 has been accordingly revised to exclude the requirement of an advance shipping notice for "road shipments or transfers with one way transit times of one hour or less in duration between installations of a licensee."

(4) Paragraph 73.36(c)(3) of the proposed rule required the consignee to notify the shipper upon arrival of a shipment by telephone, telegraph or teletype. Paragraph 73.36(e) of the proposed rule required that the consignee inform the shipper and the appropriate Regional Office by telephone *and* telegraph or teletype. In order to make notification requirements upon arrival of a shipment consistent, paragraph 73.36(c)(3) has been revised to require that the consignee inform the shipper by telephone *and* telegraph or teletype.

(5) In order to be more definitive as to the "appropriate" NRC Inspection and Enforcement Regional Office to be informed of shipments a new definition has been added in paragraph 73.2(r). For domestic shipments the appropriate Regional Office is the office within whose region the licensee who is responsible for the physical protection arrangements of the shipment is located. For export and/or import shipments the appropriate Regional Office is the office within whose region the licensee who is responsible for the physical protection arrangements of the shipment is located and also the Regional Office for the region in which the last or first point of exit or entry from or into the U.S. is located, as appropriate.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and sections 552 and 553 of title 5 of the United States Code, the following amendments of Title 10, Chapter I, Code of Federal Regulations, Part 73 are published as a document subject to codification.

42 FR 10836
Published 2/24/77
Effective 3/28/77

PART 50—LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Requirements for the Physical Protection of Nuclear Power Reactors

On November 13, 1974, the Atomic Energy Commission published in the Federal Register (39 FR 40038) proposed amendments to its regulations in 10 CFR Part 73, "Physical Protection of Plants and Materials," which, in the interest of the common defense and security and the public health and safety, would identify measures to be taken for the protection of nuclear power reactors against industrial sabotage.

Interested parties were invited to submit comments and suggestions in connection with the proposed amendments within 60 days after publication in the

FEDERAL REGISTER. Upon consideration of the comments received, and other factors involved, the Nuclear Regulatory Commission has adopted the proposed amendments, with certain modifications as set forth below.

Significant differences from the proposed amendments published for comments are: (1) Addition of a general performance requirement; (2) clarification of the requirements for multiunit sites; (3) clarifying the number and response requirements of onsite security personnel; (4) rewording of the requirement to have a security supervisor on shift at all times; (5) specification of the level of illumination to be provided for monitoring and observation requirements; (6) replacement of the term "bullet penetration resistance" with a new term "bullet-resisting"; (7) changes to permit off loading of cargo inside of the protected area; (8) a change to require escort for all vehicles in the protected area, except designated licensee vehicles, instead of requiring cleared drivers or licensee employee drivers; (9) a change to permit certain Commission approved delivery and inspection activities to be carried out in protected or vital areas; (10) deletion of the requirement for additional barriers to obstruct ready access to vital areas; (11) changes to permit additional licensee vehicles necessary to the conduct of the official plant functions into the protected area; (12) an addition to require upon termination of employment of any employee that certain keys, locks, combinations, and other related equipment be changed; (13) changes to require the implementation of the new rules on a graded basis; and (14) changes in the protected area access control provision to delete the requirement for progression of search functions and to define physical protection in terms of a bullet-resisting structure. Editorial changes also were made, as appropriate. This includes eliminating an obsolete provision in § 50.54. In addition, § 73.55 (b) (2), (b) (3), and (b) (4) (physical barriers) and § 73.55 (c) (3) and (c) (8) (access requirements) have been clarified and reorganized into § 73.55 (c) (2), (c) (3), (c) (4), (c) (5) and (d) (3), (d) (4), respectively.

The following discussion pertains to items (1) through (14) above:

(1) Although performance objectives were considered in the development of the proposed rule, the rule itself did not specify the level of performance that the physical protection system and security organization are to achieve. Many of the comments indicated that inclusion of a general performance requirement would aid in the implementation of the rule and more explicitly indicate the level of protection required. A paragraph has been added to the amendment which addresses these general performance requirements for the physical protection system and the security organization. On the basis of intelligence and other relevant information available to the NRC there are no known groups in this country having the combination of motivation, skill, and resources to attack either a fuel facility or a nuclear power reactor. In addition, studies have indicated that the generic characteristics (i.e., the "defense-in-depth" concept of reactor plant design) of commercial power reactors make the releasing of radioactivity by acts of sabotage difficult. Furthermore, the potential consequences of a reactor sabotage are judged to be less than the extreme consequences which could be associated with the successful detonation of an illicit nuclear explosive device. Having considered these factors, the Commission has concluded that the level of protection specified in § 73.55 is adequate and prudent at this time. The kind and degree of threat and the vulnerabilities to such threats will continue to be reviewed by the Commission. Should such reviews show changes that would dictate different levels of protection, the Commission would consider changes to meet the changed conditions.

Compliance with the detailed requirements should essentially satisfy the general performance requirements stated in the rule in § 73.55(a). However, there may be instances for some plants where additional requirements will have to be imposed so that the general performance requirements can be met. In these cases, such requirements will be specified by the Commission's staff. In any event all licensees subject to the rule must comply with the general performance requirements. Nothing herein should be construed as precluding licensees from providing the Commission's staff with suggested other equivalent detailed measures that the licensee determines to be necessary to meet the general performance requirements.

It also should be noted that to reduce the vulnerability of operating facilities from the threat of an insider, the Commission is considering a program to require personnel security clearances for individuals employed in sensitive work activities who have access to or control over special nuclear material. However, applicants and licensees should continue to use the employee screening guidance from the American National Standard, ANSI N18.17, "Industrial Security for Nuclear Power Plants." Should the continuing review of such internal threats by the Commission show changes that would dictate different levels of protection, future changes to meet these new conditions would be forthcoming.

(2) In adopting these amendments the Commission considered the special case of the physical security interfaces of an operating reactor on a site at which another reactor is under construction. Specifically, consideration was given to the need for special access procedures, barriers, or guards at the security boundaries common to the two units. It was determined that these amendments require a level of protection along a protected area boundary, i.e., monitored physical barriers, isolation zones, and surveillance, which is independent of the activity outside or inside the protected area. While the specific protective measures will vary according to what is adjacent to a protected area boundary, e.g., a river, a parking lot, or a reactor under construction, the level of protection and its functional requirements will not vary. However, to clarify the requirements on these and other special cases of physical security interfaces of operating power reactors, a specific mention is made of the case of adjacent reactor facilities.

(3) Guard force duties have been the subject of review by the Commission in connection with fuel cycle facilities. A specification of those duties, appropriate to licensed power reactors, has been included in § 73.55(h) (3).[1]

In addition, minimum and nominal numbers of armed response personnel have been specified in § 73.55(h) (2). The number of such armed response personnel required at a given facility could be more or less than the nominal number depending on factors such as the following to be considered during evaluation of a licensee's physical security plan, not necessarily in order of importance:

(a) Selection, training and motivation of response force.

(b) Availability and construction of defensive positions.

(c) Availability and knowledge of weapons and other equipment.

(d) Individual site considerations, including size, topography, configuration, geography, weather, and number of nuclear power plant units.

(e) Location and reliability of initial detection devices.

(f) Consideration of Local Law Enforcement Agencies response.

(g) Vital area hardening, including plant design, location of and access control to vital areas.

(h) Design and construction of protected area barriers.

(i) Redundancy of security systems.

(j) Initial clearance and continuing reliability assessment of personnel.

(k) Security and contingency procedures.

It also should be noted that, to increase the effectiveness of security organizations, the Commission is considering a regulation concerning guards and other security personnel qualifications and training. The regulation could take the for of an amendment to 10 CFR Part 73 and include performance criteria for use by licensees in developing and applying detailed personnel qualifications, basic training, and tactical training plans to be used in conjunction with security plans.

(4) The proposed rule would have required that a supervisor of the security organization be onsite at all times. Comments indicated that the responsibility of the security supervisor had been confused with that of the shift supervisor. To clarify its intent, the rule set forth below was reworded to require that one

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[1] The Commission has published for comment, proposed amendments to 10 CFR 73.50 (g) that correspond to the response requirements contained in § 73.55(h) (3). While the proposed change to 10 CFR 73.50(g) is a separate rulemaking from this proceeding, persons with an interest in the response requirements in § 73.55(h) (3) may comment on the proposed amendment to § 73.50(g) before April 11, 1977. Any changes resulting from comments on § 73.50(g) will also be considered with respect to the present rule, § 73.55(h) (3).

full time member of the security organization who is authorized to direct the activities of all other members of the security organization be onsite at all times.

(5) The proposed rule did not specify a level of illumination. Comments indicated that a level of illumination should be specified. The rule set forth below specifies a level of illumination which is sufficient for the monitoring and observation requirements.

(6) The proposed rule used the term "bullet penetration resistance." Comments indicated a need for a clear meaning. Since the meaning of "bullet penetration resistance" was covered in the term "bullet-resisting" defined and used by the Underwriters' Laboratories (UL) Standard UL-752, the rule set forth below was changed to use the term "bullet-resisting" and a new definition has been added in § 73.2 to correspond to the definition of "bullet-resisting" used by the Standard UL-752.

(7) The proposed rule would have required that cargo be off loaded outside the protected area. On the basis of public comments, it was determined that off loading outside the protected area may not be cost effective. The rule set forth below provides for off loading inside the protected area under appropriate security conditions and, to the extent practicable, at a specifically designated materials receiving area that is not adjacent to a vital area.

(8) The proposed rule would have required that either the driver of a vehicle permitted access into the protected area possess an AEC personnel security clearance, or the vehicle be driven by an employee of the licensee while in the protected area. Based upon the comments received and the attendant increase in traffic that would result from item (7) above, regarding off loading, the rule has been revised to require that all vehicles, except designated licensee vehicles, requiring entry into the protected area shall be escorted by a member of the security organization while within the protected area.

(9) The proposed rule would have required that all packages be searched prior to entry into the protected area. The rule set forth below has been changed to permit certain Commission approved delivery and inspection activities to be conducted within protected or vital areas for reasons of safety, security or operational necessity.

(10) The proposed rule would have required appropriate barriers to obstruct ready access to vital areas by ground vehicles. The Commission has decided on the basis of studies in progress that this proposed provision as it applies to vehicles should not be included in the regulations at this time. This proposed amendment has been deleted from the rule set forth below, although physical barriers are required for protection against attempts at unauthorized access of the character described in the general performance requirements.

(11) The proposed rule would have limited the admission of vehicles designed primarily for carrying passengers within the protected area to only those designated as emergency or security vehicles except under emergency conditions. Based on comments received the Commission has concluded that additional transportation, other than for emergency and security purposes, is required to perform necessary plant functions. Therefore, the rule set forth below has been modified to permit designated licensee vehicles necessary to perform official plant functions within the protected area but with certain necessary controls.

(12) The proposed amendments specified that locks, keys, combinations, and other related equipment used to control access to protected and vital areas be controlled to reduce the probability of compromise and be changed whenever there is evidence that they may have been compromised. An additional requirement to change upon termination of employment of any employee, keys, locks, combinations, and related equipment to which that employee has access, has been included.

(13) The proposed amendments specified that the new rules be implemented by licensees by 180 days from the date of Commission approval of the physical security plan. Comments received showed a need for additional time for implementation of certain features. It appears that additional time could be provided for compliance with some features of the rule without prejudice to the public health and safety and common defense and security. Other features can be more promptly implemented. The Commission has therefore concluded that a graded program for implementation is desirable. The rule has been changed to permit additional time for construction and installation requirements and to require the procedural aspects in the organization, access, communications, and response provisions to be implemented by May 25, 1977.

(14) The proposed amendments would have required that access control to the protected area proceed progressively from the detection of firearms and explosives to identification and admission, that the function for the detection of firearms and explosives be physically separate from the function of identification, and that individuals performing the identification and controlling admittance be housed in a structure capable of providing physical protection to the occupants to assure their ability to respond and summon assistance. On further consideration, these provisions appear to be unduly restrictive. The important factor in preventing a compromise of such an access control function is to protect the ability of the guards to respond and to summon assistance. Accordingly, the progression and physical separation provisions discussed above have been deleted from the amendments and a requirement added for isolation of the individual(s) responsible for the last access control function within a bullet-resisting structure to assure his ability to respond and communicate.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and Section 552 and 553 of title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 73 are published as a document subject to codification.

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42 FR 64103
Published 12/22/77
Effective 1/23/78

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Guard Force Response to an Alarm

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to clarify the alarm response requirements for onsite guards to protect special nuclear material from theft and licensed plants from industrial sabotage.

EFFECTIVE DATE: The amendments become effective January 23, 1978.

FOR FURTHER INFORMATION CONTACT:

George W. McCorkle, Chief, Physical Security Licensing Branch, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301-427-4181.

SUPPLEMENTARY INFORMATION: On February 10, 1977, the Nuclear Regulatory Commission published in the FEDERAL REGISTER (42 FR 8382) proposed amendments to its regulations in 10 CFR Part 73, "Physical Protection of Plants and Materials," which would clarify the responsibilities of the onsite guards for the protection of special nuclear material from theft and licensed plants from industrial sabotage, and would assure uniformity in the application of regulatory requirements in this important area.

Interested parties were invited to submit comments and suggestions in connection with the proposed amendments within 60 days after publication in the FEDERAL REGISTER. Upon consideration of the comments received and other factors involved, the Nuclear Regulatory Commission has adopted the proposed amendments, with certain modifications as set forth below. Significant differences from the proposed amendment published for comment are: (1) Restructuring and rewording of the measures to be taken to neutralize a threat, and (2) rewording of conditions for the use of deadly force.

Some of the comments received indicated a belief that the guard force actions listed in the proposed rule were sequential, that is, (iv) was not to begin until (iii) was completed. To clarify its intent, the rule was reworded to require that actions to neutralize the threat (interposing guards between special nuclear material and any person attempting entry for the purpose of industrial sabotage or theft, etc., and informing local law enforcement agencies of the threat and requesting assistance) be taken concurrently. Additionally, the words "if necessary" were deleted with regard to requesting assistance from the local law enforcement agency. In any instance where active measures to neutralize a threat are undertaken, requesting assistance from law enforcement personnel appears prudent.

Three commentors addressed the Commission's statement on the use of deadly force as contained in the proposed rule. One commentor felt the Atomic Energy Act of 1954, as amended, should be viewed as preempting state law in this area. Others said the rule should permit the use of deadly force to prevent a felony.

The use of deadly force by private guards at nuclear power plants and fuel cycle facilities has for many years presented a regulatory problem to the Nuclear Regulatory Commission. In the absence of overriding Federal authority, the law governing the liability of a private guard is State law. That is, if a private guard while on duty killed or wounded someone, the killing or wounding would be justifiable or not depending upon the law of the State in which it occurred. Experience with licensees and research has shown that considerable variation in State law exists on the question of justifiable homicide. However, in the narrow context of private guards doing their job on private property, there are three major aspects of justifiable homicide that the Commission thinks are universally acceptable in this country and that can, accordingly, be embodied in a rule of general application. The first is that the guard has no duty to retreat from a show of force, or from a situation that could lead to use of force. This principle is embodied in the response rule in the requirement that the guard interpose himself between the adversary and the material access areas or vital areas subject to attack. A second principle is that guards may generally meet force with force. This principle is stated in the response rule. Finally, there is general acceptance of the use of deadly force when there is a reasonable belief it is necessary in self-defense or defense of others. It is made clear in the rule that licensee's guards are expected to stand and use their right of self-defense against adversaries. The Commission believes that these three principles, taken together, constitute an adequate, practical, and publicly acceptable response rule.

Whether the Commission should go further in its response rule is a matter currently under consideration. The General Accounting Office, in a classified report on security at fuel-cycle facilities, has recommended that the Commission seek Federal and/or State legislative authority, "as appropriate," to allow guards to use firearms to prevent the theft of special nuclear material if such action is the minimum necessary to accomplish the task. The Commission is evaluating this recommendation in light of its current policy needs and the apposite legal authorities. An unclassified digest of the report has been published by GAO (EMD-77-40a, May 2, 1977).

To clarify the regulatory intent considering the above principles, the conditions for the use of deadly force were reworded to emphasize that the guard applying deadly force is the person who must have a reasonable belief that such force is necessary in self-defense or in the defense of others.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and Section 553 of Title 5 of the United States Code, the following amendments to Title 10 Chapter I, Code of Federal Regulations Part 73 are published as a document subject to codification.

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43 FR 11962
Published 3/23/78
Effective 6/6/78

LICENSED NUCLEAR MATERIALS AND FACILITIES

Licensee Safeguards Contingency Plans

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to require that licensees authorized to operate a nuclear reactor (other than certain research and test reactors), and those authorized to possess strategic quantities of plutonium, uranium-233, or uranium-235 develop and implement acceptable plans for responding to threats, thefts, and industrial sabotage of licensed nuclear materials and facilities.

The plans will provide a structured, orderly, and timely response to safeguards contingencies and will be an important segment of NRC's contingency planning programs. Licensee safeguards contingency plans will result in organizing licensee's safeguards resources in such a way that, in the unlikely event of a safeguards contingency, the responding participants will be identified, their several responsibilities specified, and their responses coordinated.

EFFECTIVE DATE: June 6, 1978.

NOTE.—The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for review of its reporting requirement under the Federal Reports Act, as amended, 44 U.S.C. 3512. The date on which the reporting requirement of the rule becomes effective, unless advised to the contrary, includes a 45-day period which that statute allows for Comptroller General review (44 U.S.C. 3512(c)(2)).

FOR FURTHER INFORMATION CONTACT:

Thomas F. Carter, Jr., Chief, Contingency Planning Branch, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 telephone 301-427-4191.

SUPPLEMENTARY INFORMATION: On May 19, 1977, the Nuclear Regulatory Commission (NRC) published in the FEDERAL REGISTER (42 FR 25744) proposed amendments to 10 CFR Parts 50, 70, and 73 of its regulations. Interested persons were invited to submit written comments and suggestions in connection with the proposed amendments within 60 days after publication in the FEDERAL REGISTER. The Commission also has under consideration other proposed amendments to 10 CFR Part 73 that relate to the response to a safeguards contingency. These were published on July 5, 1977 (42 FR 34310), and were titled, "Performance Oriented Safeguards Requirements." The comment period expired on September 19, 1977.

For administrative convenience the Commission is incorporating some sections of the proposed amendments published on July 5, 1977, in the final rule on safeguards contingency planning. Upon consideration of the comments received on the proposed amendments published on May 19, 1977, and on the pertinent sections of the proposed amendments published on July 5, 1977, and upon consideration of other factors involved, the Nuclear Regulatory Commission has adopted the proposed amendments with certain modifications as set forth below. (The pertinent sections of the proposed rule published on July 5, 1977, are paragraphs 73.26(c)(3)(iii), 73.26(d), 73.46(b)(3)(iii), 73.46(h), 73.55(b)(3)(iii) and 73.55(h).)

Significant differences from the proposed amendments published for comment on May 19, 1977, are: (1) licensees will be required to submit for NRC approval all categories of information in a safeguards contingency plan (as set forth in Appendix C to 10 CFR Part 73) except the implementing Procedures; the proposed rule required that implementing Procedures also be subject to NRC approval as part of the licensing process; (2) the observation that a goal of contingency planning is for licensee responses to be compatible with Federal responses has been removed; (3) the requirement concerning "a statement of the perceived danger" has been clarified by stating that such a statement promulgated by the Commission may be used by the licensee; (4) cross-reference to the licensee's physical security plan is explicitly permitted for topics that are adequately covered in that plan; (5) the requirement for periodic drills or tests of the licensee's safeguards contingency plan has been modified to relieve the licensee from responsibility for testing the response of entities not under the licensee's control; (6) paragraphs 73.50(g) and 73.55(h) have been revised to include an explicit requirement for safeguards contingency plans in accordance with the proposed rule published on July 5, 1977; and (7) the requirements on "Development and Maintenance of the Plan" have been removed from Appendix C of 10 CFR Part 73 and placed at appropriate places in the text of the rule.

The following discussion pertains to items (1) through (7) above.

(1) Several commenters suggested that the fifth category of information (Procedures) contained in a safeguards contingency plan as set forth in Appendix C of 10 CFR Part 73 should not be a part of a licensee's approved safeguards contingency plan because of the lack of flexibility associated with requiring NRC approval or concurrence of day-to-day operations.

They cited other precedents in this area, such as § 50.59 of 10 CFR Part 50.

The amendments as proposed contained the flexibility suggested by these comments. In paragraphs 50.54(p) and 70.32(g) as proposed on May 19, 1977, the licensee would not be required to submit changes to the contingency plan to the NRC if the changes did not decrease the plan's effectiveness. Paragraph 50.54(p) has been revised to state this option more explicitly.

In consideration of the comments, however, the Commission has decided to omit the Procedures as part of the licensee safeguards contingency plan approved by the Commission. The procedures, which are derived from the Responsibility Matrix, will be a document that can be changed by the licensee. If the Responsibility Matrix is changed as a result of a procedure change, however, an amendment to the plan must be submitted for approval in accordance with paragraph 50.54(p) or 70.32(g). The Procedures will continue to be a part of the plan, and NRC's Office of Inspection and Enforcement will insure that they conform to the licensee's Responsibility Matrix.

Paragraphs 50.34(d), 50.54(p), 70.22(g), 70.22(j), 70.32(g), 73.30(g), Section 73.40, and Appendix C to 10 CFR Part 73 have been revised to reflect this change.

(2) Several commenters suggested that the goal of having licensee contingency plans compatible with Federal responses should be the responsibility of the Nuclear Regulatory Commission rather than the licensee's, because the Commission is in a better position to integrate this capability.

The Commission did not intend to imply that licensees were responsible for insuring compatibility of licensee and Federal-level safeguards contingency plans. The goal that the plans be compatible will be achieved through licensee plans prepared in accordance with the "Standard Format and Content" guides that the Commission is furnishing to the licensees. The Commission will assure that the guides provide for the desired compatibility.

Nevertheless, because the statement regarding compatibility of licensee and Federal responses has been subject to misinterpretation, it has been deleted from the introduction to Appendix C of 10 CFR Part 73.

(3) Several commenters believed that a "statement of the perceived danger" is in the purview of the Commission and that further theorizing by the licensee on additional threats would be a drain on resources already allocated to implement existing plans.

The requirement for the licensee to submit a "statement of the perceived danger" in the *Background* section of his safeguards contingency plan (cf. Appendix C to 10 CFR Part 73) has been modified to permit the licensee to incorporate such a statement promulgated by the Commission if the licensee chooses to do so. However, the licensee should examine his facility or operation to determine its vulnerabilities in light of the adversary characteristics postulated by the Commission. This examination would make the licensee more aware of the total scope of a response and could promote the generation of additional stimuli in the Generic Planning Base.

(4) Many comments dealt with the contention that contingency plans duplicate other plans. Recommendations were made to combine all security-related plans into a single plan.

The licensee or applicant may submit a single security-related plan as long as he assures that all requirements of Appendix C of 10 CFR Part 73 have been addressed. The three "Standard Format and Content" guides that are being issued concurrently with these amendments provide guidance developed by the staff on the kind of information needed in the safeguards contingency plan and also permit reference to information that may have been submitted in an existing security plan. Section 50.34(d) and Appendix C (under Licensee Planning Base) have been revised to more explicitly state the acceptability of incorporation by reference of those topics treated in adequate detail in the licensee's or applicant's physical security plan. Paragraph 73.55(h) has also been revised to allow the incorporation of contingency plan information into security plans.

(5) The Commission recognizes the inappropriateness of holding licensees responsible for actions of persons not subject to licensee control. Therefore, licensee responsibility during periodic drills or tests has been clarified to exclude responsibility for testing the reaction of response forces not under his control.

(6) Paragraphs 73.50(g) and 73.55(h) have been revised to include an explicit requirement for safeguards contingency plans prepared in accordance with the criteria in Appendix C of 10 CFR Part 73, in order to eliminate an ambiguity that previously existed. Appropriate paragraphs, 73.46(h)(1), 73.46(h)(2) and 73.55(h)(1) of the proposed amendments published for comment in the FEDERAL REGISTER on July 5, 1977 (42 FR 34310) have been modified and used for this purpose.

(7) Upon further consideration, the Commission believes that the requirements in that section of the proposed Appendix C entitled "Development and Maintenance of the Plan" should more appropriately appear elsewhere in the rule. Hence, the requirement on assignment of responsibilities was moved to the discussion of the Responsibility Matrix and the other requirements were incorporated with the proposed amendments published on July 5, 1977, and moved to the body of the rule.

Concerning the proposed amendments published for comment on July 5, 1977, no substantive comments were received on the remaining portions of paragraph 73.46(h) nor on paragraphs 73.26(c)(3)(iii), 73.26(d), 73.46(b)(3)(iii), 73.55(b)(3)(iii), and 73.55(h). Appropriate portions of these paragraphs have therefore been incorporated into the final rule on safeguards contingency plans.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 50, 70, and 73 are published as a document subject to codification.

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43 FR 14007
Published 4/4/78
Effective 6/6/78

LICENSED NUCLEAR MATERIALS AND FACILITIES

Licensee Safeguards Contingency Plans; Correction

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is correcting certain errors which appear in the document published in FR Doc. 78-7861.

EFFECTIVE DATE: June 6, 1978.

FOR FURTHER INFORMATION CONTACT:

Thomas F. Carter, Jr., Chief, Contingency Planning Branch, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301-427-4191.

In FR Doc. 78-7861, appearing at page 11962, in the issue for Thursday, March 23, 1978, make the following corrections:

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43 FR 37421
Published 8/23/78
Effective 10/23/78

PART 73—PHYSICAL PROTECTION OF PLANTS AND MATERIALS

Security Personnel Qualification Training and Equipment Requirements

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: On July 5, 1977, the Commission published for public comment proposed amendments to the

Commission's regulations to impose upgraded guard qualification, training, and equipping requirements for security personnel protecting against theft of special nuclear materials and industrial sabotage of nuclear facilities or nuclear shipments.

In response to public comments, the training and qualifications section of the proposed amendments has been extensively revised to specify performance oriented requirements instead of the detailed training requirements as originally proposed on July 5, 1977. The performance oriented requirements give licensees flexibility in selecting and developing the most cost-effective training programs to meet site specific needs. The Nuclear Regulatory Commission now is publishing these revised amendments in final form.

Concurrent with publication of these amendments, the NRC is issuing for public comment guidance documents to assist the licensee in the development of security personnel training and qualifications plans required by the amendments. The effective date of the revised requirements has been set to permit public comment on the guidance and its issuance in final form at the time the requirements become effective.

EFFECTIVE DATE: October 23, 1978.

Note.—The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for review of its reporting requirements under the Federal Reports Act, as amended, 44 U.S.C. 3512. The date on which the reporting requirement of the rule becomes effective, unless advised to the contrary, includes a 45-day period which that statute allows for Comptroller General review (44 U.S.C. 3512(c)(2)).

FOR FURTHER INFORMATION CONTACT:

Mr. R. J. Jones, Chief Materials Protection Standards Branch, Division of Siting, Health and Safeguards Standards, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301-443-5907.

SUPPLEMENTARY INFORMATION: In 1975, the security agency study (NUREG-0015, ES) concluded that "Creation of a Federal guard force for maintaining security in the nuclear industry would not result in a higher degree of guard force effectiveness than can be achieved by the use of private guards properly qualified, trained and certified (by the NRC)." In 1976, a joint ERDA-NRC task force was formed to propose a plan of action for improving the controls and protection of nuclear materials at NRC licensed fuel cycle facilities. The task force addressed the current status and future direction of physical security protection at NRC licensed fuel cycle facilities now in possession of certain quantities of special nuclear materials. The task force report issued in July 1976 included conclusions and recommendations which provide a basis for rulemaking. The Nuclear Regulatory Commission has determined, as a result of the security agency study conclusions, the joint task force findings and other subsequent deliberations, that security personnel qualification and training requirements should be upgraded through public rulemaking. On July 5, 1977, the Nuclear Regulatory Commission published in the FEDERAL REGISTER (42 FR 34321) proposed amendments to 10 CFR part 73 of its regulations. Interested persons were invited to submit written comments and suggestions on the proposed amendments within 45 days after publication in the FEDERAL REGISTER. The comment period was subsequently extended 30 days. Based on the public comments and other considerations, the Commission has adopted the proposed amendments, with modifications as set forth below.

In adopting these amendments the Commission decided that the requirements should not be made effective until guidance had been published to assist the licensees in developing their security personnel training and qualifications plans. Concurrent with the publication of these amendments, three guidance documents are being published for public comment. These are:

1. NUREG-0464, "Site Security Personnel Training Manual,"

2. NUREG-0465, "Transportation Security Personnel Training Manual," and

3. Regulatory Guide 5.52, "Standard Format and Content for the Physical Protection Section of a License Application (For Facilities Other Than Nuclear Power Plants)," Revised Chapter 4, "Security Organization," and Chapter 18, "Security Personnel."

Copies of these three guidance documents are being sent to persons who have expressed an interest in this matter. Comments are being requested by September 22, 1978 so that final guidance can be published by the time the rule becomes effective October 23, 1978.

A fourth document specific for nuclear power plants, "Nuclear Security Personel for Power Plants, NUREG-0219, Draft 2," was published for comment in April 1978. This document has been revised and published in final form. Copies of these doucments also will be placed in the Commission's Public Document Room at 1717 H Street NW., Washington, D.C. Single copies of these four guidance documents may be obtained by writing to the U.S. Nuclear Regulatory Commission, Attention: Bernadine Scharf, Distribution Services Branch, Washington, D.C. 20555.

Significant differences from the proposed rule published for comment on July 5, 1977 are: (1) titles and definitions used in appendix B have been clarified and moved to 10 CFR 73.2 to be consolidated with other definitions applicable to 10 CFR part 73; (2) employment suitablity criteria have been revised to be less restrictive on the hiring of unarmed security personnel, and more specific on the hiring of armed security personnel; (3) physical qualification criteria have been revised to require physical examinations for central alarm station operators and armed security personnel; (4) the criteria for vision and hearing capability have been revised for clarification purposes, and to permit the use of hearing aids to qualifty to the hearing criteria; (5) mental qualifications criteria have been revised to delete the requirement for psychological testing of unarmed security personnel, except for central alarm station operators, and to allow for some flexibility in the licensee psychological evaluation program; (6) physical fitness qualifications criteria have been revised to permit each licensee to develop physical fitness requirements to meet site specific needs; (7) contract security personnel criterion has been revised to be job related; (8) training and qualifications criteria have been completely revised to delete specified training courses and instead rewritten to require the licensee to develop a plan that he will use to meet the proposed criteria, in order to assure that security personnel possess the required skill, knowledge and ability to perform assigned security job duties; (9) the criteria which specify certain requirements for security management and security supervisors have been deleted; (10) the criteria for weapons training have been revised and the number of training hours has been deleted; (11) weapons qualification criteria have been simplified and clarified; (12) the phrases "* * * not limited to * * *", and "* * * as appropriate * * *" have been deleted; (13) the period of time allotted for submittal of a licensee plan to implement these proposed requirements has been lengthened from 30 to 120 days for fuel cycle facilities and tranportation and 300 days for power reactors; and (14) fuel cycle facility and transportation licensees plans would be followed by 180 days after the effective date of the rule or 60 days after NRC approval of the plan, whichever is later, and power reactor licensees plans would be followed by 500 days after the effective date of the rule or 60 days after the approval of the plan, whichever is later.

The following discussion pertains to Items (1) through (14) above.

(1) *Titles and definitions.* Commenters stated that titles and definitions contained in appendix B should be limited and clarified and suggested that all definitions applicable to 10 CFR part 73 and appendix B should be located in 10 CFR 73.2.

In response to these comments the Commission has decided to limit the number of titles used, to clarify such titles, and to remove titles and definitions from appendix B. Accordingly, titles and definitions of job duties, essential to the effective operation of a licensee security system, have been clarified, the term "armed escort" has been added and defined, and titles and definitions have been included in 10 CFR 73.2.

(2) *Suitability criteria.* Some commenters recommended that criteria for suitability and physical qualification be deleted. Some commenters stated that in view of the fact that the age of majority for voting, joining the armed services and entering into legal transactions is 18 years, a minimum age of 21 years for hiring security personnel would present legal problems if challenged under equal employment laws. Other commenters stated that the criteria for a high school diploma or equivalent and the prohibition against felony convictions should be clarified to avoid any complications that might arise because of employment opportunity laws.

In response to these comments the Commission has decided: (a) to permit licensees to employ unarmed security personnel under 21 years of age; (b) to elaborate on the meaning of high school equivalent; and (c) to be more explicit regarding types of felony convictions to be considered. The rule has been changed to clarify the meaning of high school equivalent, in terms of job connection, and in requiring no felony convictions to show a direct relationship between a felony conviction and the specific job assignment being sought. However, the Commission believes that because of the high level of responsibility associated with the job duties of armed personnel, suitability criteria are necessary. Accordingly, the minimum age requirement of 21 years has been retained for armed security personnel.

(3) *Physical qualifications criteria.* Some commenters stated that the rigidity of physical qualifications would severely limit the number of candidates available to fill security job functions and that the criteria specified would result in a violation of Federal age and sex discrimination laws.

In response to these comments the Commission has decided to delete the criteria requiring a physical examination for unarmed security personnel except for central alarm station operators and instead will require such personnel to be physically capable of performing assigned security job duties. The criteria specifying the requirement for physical examinations have been revised to apply only to armed security personnel and central alarm station operators.

(4) *Vision and hearing criteria.* Commenters made the following statements about the proposed vision and hearing criteria; (a) they are overly restrictive; (b) unarmed security personnel should not be required to meet the criteria; (c) the requirement for recognizing basic colors should be clarified; (d) the use of a hearing aid should be allowed to correct hearing impairment; (e) that additional clarification of these requirements is essential; and (f) that it would be preferable to specify minimum requirements in terms of the better ear.

In response to these comments the Commission has decided that: (a) unarmed security personnel should be exempt from vision and hearing requirements unless required by assigned security related task identified in the licensee's plan; (b) the criteria need to be clarified; and (c) a hearing aid to correct hearing impairment should be permitted. Accordingly, the criteria which specify vision and hearing requirements have been revised to: (a) Apply explicitly to armed personnel; (b) clarify the requirements; and (c) permit the use of a hearing aid to meet hearing requirements.

(5) *Mental qualifications criteria.* Some commenters stated that the requirement for each security force member to be examined by a licensed clinical psychologist or psychiatrist is unnecessary and overly restrictive, and that adequate psychological screening is within the capabilities of a general physician who has experience in such matters. Other commenters stated that an option to the mental examination should be available, and suggest that individuals employed by the same firm for more than 2 years with no sign of emotional instability should be excused from taking the mental examination.

In response to these comments the Commission has determined that: (a) psychological evaluations should be administered by a licensed psychologist, or psychiatrist, or physician or other person professionally trained to identify emotional instability; (b) persons other than armed personnel and central alarm station operators need not undergo psychological evaluation; and (c) the granting og exemptions or exceptions to NRC requirements, properly supported and documented, will continue to be a licensing responsibility. Accordingly, mental qualifications criteria have been revised to require only armed personnel and central station operators to undergo psychological examination, and to permit subsequent identification of possible emotional instability for these and all other security personel by normal supervisory personnel, subject to verification by an appropriately licensed and trained person.

(6) *Contract security personnel.* Commenters stated that requirements for contract security personnel should be job duty related.

In response to these comments the Commission agreed that contract security personnel should be required to meet the same criteria for specific security job tasks and duties that would be required for a licensee proprietary guard force. Accordingly, contract security personnel criteria have been revised to be job related just as for inhouse security personnel.

(7) *Training and qualifications.* Some commenters stated that the proposed training and qualifications criteria attempt to be too broad and all inclusive in scope while sacrificing quality, indepth education and training. Most commenters stated that the overall concept of specifying in fine detail each course of instruction, the number of hours of instruction for each course, the individuals who would be required to attend each course, the documenting of names of instructors and places of instruction for each course, specific training requirements for licensee management and security supervisory personnel, etc., would not neccessarily achieve the desired objective of uniformly upgrading the quality of security personnel at licensed facilities and in transportation because training in itself would not measure an individual's capability to perform assigned security job duties. In addition, commenters stated that there appeared to be much duplication among the proposed training programs, and that training programs and facilities would more properly be designed and implemented on a site specific basis.

In response to these comments the Commission has decided that, because of site specific requirements as they relate to security hardware, physical barriers, material access and vital areas, alarm systems, and procedures required to implement a licensee's physical security and contingency plans, the training and qualifications criteria should be revised to give the licensee greater latitude to design and develop site specific training requirements and programs to meet site specific needs. In order to accomplish this, the training and qualifications criteria have been revised to require each licensee to submit a training and qualifications plan which outlines the processes by which guards, watchmen, armed response persons, armed escorts and other members of the security organization will be selected, trained, equipped, tested, and qualified to assure these individuals meet the requirements.

(8) *Security management.* Commenters stated that the criterion which specifies a training program and hours of instruction for managers does not clearly define up to what level of management would be required to receive such training. One commenter stated that rather than requiring specific training for management, the NRC should specify minimum qualifications for the various functions within management and that the NRC should provide any additional security training that the NRC deems necessary.

In response to these comments the Commission has decided to delete the requirement for security management training. The revised criteria for training and qualifications described in (7) above will assure the Commission that the proper level of management will be involved in the decision making and implementation process in the qualification and training of guards.

(9) *Weapons training.* Most commenters stated that weapons training requirements: (a) were excessive with respect to number of hours of instruction required; (b) were not clear as to who should undergo the training; (c) specified unnecessary training time, since performance requirements are later specified in section IV of appendix B; and (d) did not take into account individuals with previous weapons experience.

In response to these comments the Commission has decided that the weapons training criteria should be stated in terms that would permit flexibility with respect to hours of instruction required based on an individual's experience and to permit the licensee to identify by security related job tasks or duties, which individuals would be required to qualify with weapons and the weapon with which they would qualify. To effect this change the weapons training criteria have been revised to delete the number of hours of training required to give the licensee the requisite flexibility in determining by job assignment who will receive training and the extent of training required to qualify with the assigned weapon.

(10) *Weapons qualification.* Commenters stated that: (a) It would be difficult to establish and operate the firing ranges needed for weapons qualification because of training facility limitations; (b) the requirements for both day and night range firing is not necessary to achieve and maintain firing proficiency; (c) lighting presently required at nuclear facilities would preempt any need for night firing; and (d) firing ranges are not equipped to duplicate lighting at nuclear facilities. This can only be done using military type battlefield illumination sources which are beyond the scope of private licensees.

In response to these comments the Commission has decided: (a) That weapons qualification requirements should be relaxed to give the licensees flexibility in designing their weapons qualifications programs and to permit licensee armed personnel to either fire the course specified or to select an equivalent course of fire; and (b) that it is necessary to require armed individuals to perform nighttime or simulated nighttime firing for familiarization only, because of the varying psychological effects on persons not accustomed to night firing. Accordingly, weapons qualification criteria have been revised to permit the licensee to either select the course of fire specified or to choose an equivalent course of fire to qualify armed personnel. In addition, the criteria requires individuals to qualify only with assigned weapons as identified in the licensee's plan.

(11) *Suggestive phrases.* Commenters noted that phrases such as "* * * but not limited to * * *," and "* * * as appropriate * * *," were suggestive, not definitive, and implicitly require more to be done.

The criteria in appendix B have been changed to eliminate these phrases. As revised, the requirements are stated broadly in terms of capability and performance to permit flexibility in the design of training and qualifications programs. The Commission believes that the revised rule will assure the upgraded quality of licensee security personnel so that open-ended, suggestive wording is unnecessary.

(12) and (13) *Licensee plan submittal and implementation.* Commenters stated that the Commission did not provide for adequate time to develop a plan in response to the proposed requirements, or provide sufficient time to implement the plan after it has been approved.

The Commission agrees that adequate time must be allowed for proper planning and implementation to assure effective programs. The rule has been changed to allow more time for planning and implementation.

In addition to the comments that resulted in changes in the proposed amendments, a number of other issues were commented on which did not result in changes to the proposed amendments, but which warrant discussion and explanation.

(1) *Security personnel training manual.* One commenter stated that the training manual should not be published as a NUREG document if the manual is intended to demonstrate one acceptable approach to satisfying the requirements of the proposed regulation.

The Commission had intended for the training manual to represent a general course outline for training security personnel and not to provide specific parallel guidance to meet each of the requirements of appendix B. It was not intended as a regulatory guide. The utility of the training manual will be enhanced, as a general document, in light of the revised amendments.

(2) *Environmental impact statement.* A few commenters stated that as a practical matter the drastic increase in security personnel training requirements proposed by the amendments would undoubtedly require additional security, administrative, and recordkeeping staff, therefore affecting other persons rather than dealing only with the training of existing security personnel; involve the potential employment rights and opportunities of numerous existing and future security personnel; and involve the potential issuance of advanced weaponry to private security forces. They believed that the Commission has too narrowly construed the term "environment" contrary to Commission policy as stated in 10 CFR 51.1(a), concluding that an environmental impact statement is required to satisfy NRC's obligations under NEPA and CEQ guidelines.

The Commission has reviewed the criteria provided in 10 CFR Part 51, the Council on Environmental Quality (CEQ) and National Environmental Policy Act (NEPA) guidelines in light of the comments received and continues to believe that an environmental impact statement for the proposed amendments to 10 CFR Part 73 is not required. The main effect of the rule is to require training and qualification of security personnel and is basically procedural, with no environmental effect worth noting.

(3) *Guard upgrading.* One commenter stated that the entire upgrading of guard qualification, training and equipping was unwarranted because his facility maintains liaison with local law enforcement authorities and that the local authorities have superior manpower, training and equipment to deal with security contingencies beyond the control of the site security organization.

Based on the Joint ERDA-NRC Task Force on Safeguards and the Security Agency Study (SAS) reports, the Commission decided that the upgrading of licensee guard quality was necessary. In support of this decision, the Commission also compared the content and scope of training programs submitted by each licensee to meet the present requirements with the guidance the NRC provided through regulatory guide 5.20. The results of this comparison revealed that present training programs for new guards would not produce the quality needed to assure the effective protection of special nuclear materials, facilities, or shipments. The fact that licensees maintain liaison with local law enforcement authorities was considered in the decision to require upgraded guard quality, accepting that proximity to, response time by, and the number of responding local authorities could bear on the degree of upgrading that would be required in onsite response force numbers and tactical training requirements.

(4) *Tear gas or mace.* Numerous comments were made that the use of tear gas or mace would violate certain State laws which prohibit the use of such substances by private citizens. Tear gas or other nonlethal gases will continue to be required, and where State law prohibits such possession and use by private citizens, adequately supported requests for exemption may be granted or equivalent alternative protection measures may be proposed in conjunction with a request for exception from the specific requirement.

(5) *Costs.* There were a few comments made relative to costs to imple-

ment the proposed requirements. One commenter did provide a cost estimate for training his existing guard force plus annual cost for training new hires. No basis was given to support these or the other estimates. The cost effectiveness of alternative training programs will be investigated as part of the logistical management study identified in paragraph 1. Staff has prepared a value-impact assessment which has been placed in the public document room which provides a breakdown of the cost estimates including statements of benefit whenever possible. The important aspect of the proposed regulation, as now written, is that the job related performance orientation will give the licensee greater flexibility in developing the most cost-effective training program for his plant and transport system.

(6) A few comments were received in response to the Commission's request for comments, recommendations, and cost tradeoffs on the alternate approaches available for training personnel, and the alternative of certifying training programs vs. certifying of individuals, to assist the Commission in arriving at a consensus as to the most cost-effective approach for conducting security personnel training. These comments can be categorized generally as follows:

(i) Central and regional training versus local training.

(ii) Certification of training programs versus certification of individuals.

(iii) Training costs.

The following discussion pertains to items (i) through (iii) above.

(i) Comments received were both in favor of and opposed to the need for establishing central or regional training facilities. Persons favoring the establishment of central or regional training facilities stated that such facilities could be established by or under contract to the NRC, possibly using existing Federal installations. Since there would be only a few instructors available with the expertise necessary to teach some of the courses required, the staffing of central or regional facilities would not be difficult, while the simultaneous staffing of localized training facilities may not be achievable. Such commenters also stated that with central or regional training facilities, changes in the Commission's regulations could be implemented directly, and that the skill levels of graduates would be consistent throughout the industry. No cost figures were provided by commenters advocating the establishment of central or regional facilities.

Commenters opposing central or regional training facilities stated that the expenses for transporting, feeding, and housing individuals at a central or regional facilities would add substantially to the cost for training. Under either of these training arrangements, it would be difficult to provide site specific training sufficient to meet the needs of each licensee. Additionally, regional centers or a central facility would necessitate pooling of security personnel from various licensees for each class of students, which would increase the probability of unauthorized disclosure of sensitive and proprietary licensee physical security system information. No cost comparison estimates were provided to support the position of commenters opposed to central or regional training of security personnel.

(ii) Commenters stated that the alternative of certifying training programs for a specific training center versus certification of security personnel would only be acceptable from a cost-effective standpoint if each licensee or the employer of the personnel could operate its own certified training centers. One commenter stated that the requirements should be defined, methods for certification identified, and actual training programs be made available prior to implementation of the proposed rule.

(iii) A few commenters provided generalized and unsupported costs for implementing the proposed amendments. They also expressed concern that they were limited in attracting younger personnel who might meet the requirements, and historically, they have experienced a high turnover rate in security personnel which would drive the costs for training and retraining even higher.

The Commission agrees that there are economic advantages and disadvantages and other problems associated with the alternative means available for training licensee security personel. The revised amendments take into consideration the Commission's objective to assure that security personnel quality be uniformly upgraded at licensee facilities and in transportation. This can be achieved by either close coordination with all training programs, or by a means for assuring that each person assigned to perform security tasks is properly equipped and qualified to do so. The revised amendments follow the latter approach and do not specifically address training details. Nevertheless, the Commission is still concerned that some level of uniformity of performance should be established for all affected licensees. As stated in July 1977, the Commission will study alternative approaches to training personnel and the alternative of certifying training programs or individuals. There is underway a logistical management study which should assist the Commission in deciding on the most cost-effective approach available for certification, and will provide the licensees information on the cost effectiveness of each of the training alternatives to meet NRC requirements. In addition, the results of the study should provide information on the availability of instructors with the expertise necessary to train security personnel. The results of this study should be available around November 15, 1978. These results, along with the experience gained from implementation of the effective rule, will be used in the decision making process by the Commission to determine whether a more structured system of training of security personnel should be recommended to licensees.

The Commission has determined under Council of Environmental Quality guidelines and the criteria in 10 CFR Part 51.5(d)(3), that neither an environmental impact statement nor environmental impact appraisal to support a negative declaration for the proposed amendments to 10 CFR Part 73 is required because the amendments deal primarily with the qualification and training of existing security personnel and do not directly or indirectly affect the environment.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, notice is hereby given that the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 73 are published as a document subject to codification.

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44 FR 34466
Published 6/15/79
Effective 7/16/79
Comment period expires 8/17/79

10 CFR Part 73

Physical Protection of Irradiated Reactor Fuel in Transit

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Interim final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission has decided to establish requirements for protection of spent fuel in transit. A recent study suggests that the sabotage of spent fuel shipments has the potential for producing serious radiological consequences in areas of high population density. It will be some time before confirmatory research relative to the estimated consequences resulting from a successful act of sabotage on spent fuel can be completed. In the meantime, the Commission believes that interim requirements for the protection of such shipments should be issued immediately. This rule is subject to reconsideration or revision based on public comments received subsequent to its publication. Concurrently, the NRC is issuing guidance documentation (NUREG–0561) to assist licensees in the implementation of these requirements. The Public is invited to submit its views

and comments on both the Rule and the Guidance.

EFFECTIVE DATE: July 16, 1979.

DATE: Comment period expires August 17, 1979.

ADDRESSES: Written comments should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch.

FOR FURTHER INFORMATION CONTACT: Mr. L. J. Evans, Jr., Regulatory Improvements Branch, Division of Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Phone (301) 427–4181.

SUPPLEMENTARY INFORMATION: The U.S. Nuclear Regulatory Commission is amending 10 CFR 73 of its regulations to provide interim requirements for the protection of spent fuel in transit. This amendment is being published in effective form without benefit of public comment in the interest of the public health and safety.

Previous studies (NUREG–0194, Calculations of Radiological Consequences from Sabotage of Shipping Casks for Spent Fuel and High-Level Waste, February 1977; NUREG–0170, FES on the Transportation of Radioactive Material by Air and Other Modes, December 1977), estimated the health effects of a radiological release in a non-urban area resulting from a high-explosive assault on a spent fuel cask. The estimated risks were not considered so substantive as to warrant regulatory action. A subsequent study by Sandia Laboratories includes a chapter on the sabotage of spent fuel in urban areas of high population density (SAND–77–1927, Transport of Radionuclides in Urban Environs: A working Draft Assessment). This study suggests that the sabotage of spent fuel shipments has the potential for producing serious radiological consequences in areas of high population density. The Commission has concluded that, in order to protect health and to minimize danger to life and property (Sections 161b and 161i(3) of the Atomic Energy Act of 1954, as amended), it is prudent and desirable to require certain interim safeguards measures for spent fuel shipments. The interim rule would be in effect until the results of confirmatory research are available and analyzed.

The focus of concern is on possible successful acts of sabotage in densely populated urban areas. Because of the possibility that spent fuel shipments could be hijacked and moved from low population areas to high population areas, the interim requirements apply to all shipments even though the planned shipment route may not pass through densely populated urban areas.

Prior to publication of this rule, informal contact was made with the carriers primarily involved in spent fuel shipments as well as with other interested parties, and their comments are known to the staff. It was ascertained that the imposition of these requirements would probably double the cost per mile rate for these shipments for an increase of approximately $200,000 per year for the estimated 200 annual shipments involved.

Because spent fuel shipments are ongoing and the time of sabotage cannot be predicted, the Commission is of the opinion that time is of the essence in this matter, and that health and safety considerations override the necessity for public comment before issuance of an effective rule. Accordingly, the Commission, for good cause, finds that notice and public procedure are unnecessary and contrary to the public interest.

Although this rule is being published in effective form without a prior public comment period, the public is invited to submit its views and comments. After reviewing these views and comments, the Commission may reconsider or modify the interim rule as it deems necessary.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 73, are published as a document subject to codification.

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44 FR 43280
Published 7/24/79
Effective 11/21/79

Safeguard Requirements for Special Nuclear Materials of Moderate and Low Strategic Significance

See Part 70 Statements of Considerations.

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44 FR 68184
Published 11/28/79
Effective 3/25/80

10 CFR Parts 70, 73, and 150

Physical Protection Upgrade Rule

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: In July 1977, the Commission published for public comment proposed amendments to its regulations for strengthened physical protection for strategic special nuclear material, certain fuel cycle facilities, transportation and other activities involving significant quantities of strategic special nuclear material. Extensive comments were received and a revision of the proposed amendments was published in August 1978 requesting public comment on the changes made.

In response to public comments, some additional changes have been made to the proposed amendments. The Nuclear Regulatory Commission now is publishing these revised amendments in final form.

The NRC has issued for public comment guidance documentation to assist the licensee in the development of safeguards physical protection and transportation protection plans and the implementation of such plans required by the amendments. The effective date of the revised requirements has been set to permit public comment on the guidance and its issuance in final form at the time the requirements become effective.

EFFECTIVE DATE: March 25, 1980.

Note.— The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for review of its reporting requirement under the Federal Reports Act, as amended, 44 U.S.C. 3512. The date on which the reporting requirement of the rule becomes effective, unless advised to the contrary, includes a 45-day period which that statute allows for Comptroller General review (44 U.S.C. 3512(c)(2)).

FOR FURTHER INFORMATION CONTACT: Mr. L. J. Evans, Jr., Chief, Regulatory Improvements Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301–427–4181, or Dr. W. B. Brown, Acting Chief, Safeguards Standards Branch, Division of Siting, Health And Safeguards Standards, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301–443–5907.

SUPPLEMENTARY INFORMATION: On July 5, 1977, the Nuclear Regulatory Commission published in the **Federal Register** (42 FR 34310) proposed amendments to 10 CFR Part 73 of its regulations. Interested persons were invited to submit written comments and suggestions in connection with the proposed amendments within 45 days after publication in the **Federal Register**. The comment period was subsequently extended thirty days. Upon consideration of the comments received on the proposed amendments published on July 5, 1977 and upon consideration of other factors involved, the Nuclear Regulatory Commission published revised proposed amendments on August 9, 1978 in the **Federal Register** (43 FR 35321) to obtain further public comment on the changes that had been made to the proposed amendments.

Significant differences from the original proposed amendments published for comment on July 5, 1977 were: (1) The definition of the conspiracy threat was changed to a conspiracy between individuals in any position who may have access to and detailed knowledge of the facilities and activities referred to in § 73.20(a) or items that could facilitate theft of special nuclear material or both; (2) export/import requirements were revised to reflect the jurisdictional aspects of the regulation; (3) the phrase "* * * but not necessarily limited to * * *" was deleted from the general performance requirements and capability requirements; (4) the package search requirements were changed so that packages carried into a protected area by persons having access authorization need only be searched when that person is chosen for random search. The package search requirement also was changed to require only random search of packages delivered into a protected area; (5) the Contingency and Response plan requirements for in-transit protection were revised to add more detailed response requirements consistent with the fixed site requirements; (6) the requirement for three armed escorts on cargo aircraft and for sea shipments was changed to two, (7) the requirement for Pu and U–233 containers resistant to small arms fire was deleted; (8) the export/import security plan approval requirement was changed to apply to all shipments and was clarified as to timing; (9) the requirement for alarm stations to be considered vital areas was changed; (10) the use of vault type rooms for storage of strategic special nuclear material directly useable in a nuclear explosive device was prohibited and the definition of vault changed to better reflect the purpose of vaults; (11) the word "immediately" was deleted from the requirement that armed response personnel be immediately available; (12) definitions were added for deceit, stealth, and force, and other changes in wording and language were made throughout the rule to clarify the intent and be more specific in the meaning of the requirements; (13) obsolete sections to be deleted when the effective rule is published were noted; and (14) planning and implementation times were changed.

After review of the latest round of comments, the following substantive changes have been made: (1) Non-power reactors are not required to meet the provisions of the upgrade rule. As an interim measure, non-power reactors must meet the provisions of § 73.67 (a), (b), (c), (d), (requirements for protection of material of low and moderate strategic significance), and in some cases of the provisions of a revised § 73.60 (for those non-power reactor facilities possessing formula quantities of special nuclear material not meeting the 100 rem self-protection exemption); (2) the definition of vault has been further revised and required vault attributes have been added to § 73.46(c)(5)(i); (3) the number of armed escorts required for transfer, rail and road transportation of domestic shipments of SSNM has been reduced from nine to seven individuals; (4) the requirement for "penetration resistant" tamper-indicating containers for storage of certain SSNM has been changed to tamper-indicating containers; (5) the requirement for a third closed circuit television monitor of vaults has been changed; (6) a definition has been added for "undergoing processing;" (7) planning and implementation times have been changed; (8) the design basis threat relating to theft of strategic special nuclear material has been modified and moved to § 73.1(a); (9) the design basis threat statement relating to radiological sabotage (present § 73.55) has been modified and moved to § 73.1(a); and (10) the "high assurance phrase" contained in § 73.20(a) of the proposed rule and in present § 73.55(a) has been modified to state that the physical protection system will have as its objective to provide high assurance. In addition, changes in wording and language have been made throughout the rule for clarification, and conforming changes in references to and by existing sections have been made.

The following discussion pertains to items (1) through (10) above.

(1) Application of the requirements of these amendments to non-power reactors possessing formula quantities of special nuclear material which cannot meet the 100 rem self-protection exemption has been deferred pending completion of a separate on-going review of total safeguards requirements adequacy at such facilities. In the interim, such licensees will be subject to the provisions of § 73.67 (a), (b), (c), and (d), and revised § 73.60. This is an interim solution only, and it is the intent of the Commission to bring non-power reactors under an improved safeguards system in the near future.

(2) Commenters noted that the definition of vault, while attempting to specify a delay capability tied to the response time of LLEA, failed to account for the significance of other aspects of the security system, such as intrusion detection and communication, in determining that response time. Additionally, the use of LLEA response time as the criterion for measuring vault delay time was criticized as being impractical and ignoring the protection afforded by response of the armed onsite security force. Accordingly, the definition has been changed and an additional discussion of required vault attributes has been added to § 73.46.

(3) In determining a specific number of armed escorts for domestic transfers, rail, and road shipments, the basic principles were that force size be large enough to engage a small group of attackers and delay theft and that this force would always be composed of two distinct separated groups, so that no single act which interrupted communications of one group would totally destroy the ability to communicate to the movement control center. The Commission, in reviewing the differences in performance that could be expected from different group sizes, determined that seven armed individuals could provide the necessary protection while lessening labor expense. The rule has been changed accordingly.

(4) Comments questioned whether a "penetration resistant" tamper-indicating container was adequately defined, available, or even necessary. As the meaning of penetration resistant was not clear, availability of containers was not certain, and the need for such containers was not defined, the rule was changed to delete the terms "penetration resistant."

(5) Commenters stated that requiring a third continuously manned location to monitor closed circuit television was equivalent to requiring a third alarm station. The intent of this provision was to add a third factor to protect against collusion between the two alarm station operators. After review, the Commission has determined that this factor could be provided without the specific requirements of a third CCTV monitor. The rule has been changed accordingly.

(6) Commenters expressed confusion as to when protection requirements were required while SSNM is undergoing processing. A definition has been added to § 73.2 to define undergoing processing and to clarify the distinction between such processing and storage for application of protection requirements.

(7) The implementation schedule has been simplified. There is now one schedule required for planning and implementing a revised security program, rather than separate schedules for the external threat plan and internal conspiracy plan as previously proposed. The prior two schedule approach was to permit time for development of guidance for protection against the internal conspiracy. This guidance has now been developed so that a schedule delay is not necessary.

(8) Based upon review of the design basis threat, the previous threat description stated as a general performance requirement in § 73.20(a) has been modified to reflect a reference to the malevolent act of concern (theft or diversion) rather than a reference to the type of facility to be protected and has been moved to § 73.1. Appropriate reference changes have been made accordingly.

(9) The existing design basis threat stated in § 73.55(a) for nuclear power reactors has also been modified as in (7) above to be referenced to the radiological sabotage threat rather than to the facility to be protected and has been moved to § 73.1. Appropriate reference changes have been made accordingly.

(10) The Commission has modified the statement of general performance requirements. Paragraph 73.20(a) of the proposed rule required the physical protection system to prevent theft of strategic special nuclear material and to protect against radiological sabotage with high assurance. This paragraph has been modified to state that the physical protection system will have as its objective to provide high assurance that covered activities are not inimical to the common defense and security and do not constitute an unreasonable risk to public health and safety.

The Commission is also making a conforming modification to 10 CFR 73.55(a) to state an objective of high assurance in the performance of security systems to protect against radiological sabotage at nuclear power reactors identical to the general performance objective in 10 CFR 73.20(a). This is a change from the present 10 CFR 73.55(a) which currently calls for high assurance in performance as a requirement of physical security systems. It is important to note that this change will not affect the Commission's judgments of what system requirements are necessary to assure provision of adequate safeguards against radiological sabotage, theft or diversion. "High assurance," as used in 10 CFR 73.55(a), is deemed to be comparable to the degree of assurance contemplated by the Commission in its safety review for protection against severe postulated accidents having potential consequences similar to the potential consequences from reactor sabotage. It should be appreciated that the standard "reasonable assurance," commonly used in safety evaluations, is applied to a broad category of safety concerns ranging from the mitigation of minor anticipated operational occurrences to protection against severe postulated accidents. Thus, the degree of assurance necessary to provide "reasonable assurance" varies with the gravity of the safety concern.

In adopting these amendments, the Commission decided that the requirements should not be made effective until guidance had been published assisting licensees in conforming to performance-oriented physical protection requirements for affected facilities and activities. Allowance for consideration of public comments on this guidance has been built into the time period specifying the effective date of the amendments. Prior to the publication of these amendments, two guidance documents have been published for public comment. These are: (1) "Fixed Site Physical Protection Upgrade Rule Guidance Compendium, Volumes I and II" and (2) Regulatory Guide 5. (SG904–4), "Standard Format and Content, Physical Protection of Strategic Special Nuclear Material In Transit."

In addition, revisions to Regulatory Guides 5.7, "Exit/Entry Control to Protected Areas, Vital Areas, and Material Access Areas," 5.14, "The Use of Observation (Visual Surveillance) Techniques in Material Access Areas," 5.44, "Perimeter Alarm Systems," and 5.57, "Shipping and Receiving Control of Special Nuclear Material," have been made. These documents also have been published for comment.

Copies of these new and revised guidance documents have been sent to persons who have expressed an interest in this matter. Comments have been received so that final guidance can be published by the time the rule becomes effective on March 25, 1980. Copies of these documents also will be placed in the Commission's Public Document Room at 1717 H Street, NW., Washington, D.C.

The Commission believes that a significant number of comments for which no changes to the amendments were made will be satisfactorily addressed by this guidance documentation to be published concurrently with the effective date of these amendments.

In addition to the comments that resulted in changes in the proposed amendments, the threat and general performance requirements were again questioned. The Commission believes it is worth restating the purpose and intent of the threat characterization and its relationship to the general performance requirements.

The purpose of the threat defined in the proposed amendments is to define the general character of the domestic safeguards challenge. It is intended to provide a design basis for physical protection systems; therefore, additional adversary attributes are not necessary to serve this purpose. Physical protection systems, when designed to the level specified in the general performance sections of the rule and in accordance with the reference system specified in the rule and other design guidance to be provided, will be responsive to a general range of threats characterized by that stated in the amendments.

With respect to specific numbers of adversaries, the numbers are not as significant as are the capabilities and resources of the adversary. For example, the threat from a disorganized mob of fifty or so people is much different from that of only a few well-organized, well-trained people.

Given that the described threat is a design basis for a physical protection system, additional design criteria are given in the form of required system capabilities. These capabilities are further supported by a reference safeguards system (§ 73.46) which provides guidance concerning those safeguards measures which will generally be included in a physical protection system that achieves the required performance capabilities.

The Commission has determined under Council of Environmental Quality guidelines and the criteria in 10 CFR Part 51 that an environmental impact statement for the amendments to 10 CFR Part 73 is not required. Concurrently with publication of the notice of proposed rulemaking of July 5, 1977 (42 FR 34310), the Commission made available in its Public Document Room at 1717 H Street NW., Washington, D.C., an "Environmental Impact Appraisal of Amendments to 10 CFR Part 73" to support a Negative Declaration. This document is appropriate for the revised amendments as well.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, notice is hereby given that the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 70, 73, and 150, are published as a document subject to codification.

45FR14199
Published 3/5/80
Effective 3/5/80

Minor and Clarifying Amendments

See Part 1 Statements of Consideration

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45 FR 19215
Published 3/25/80
Effective 3/25/80

10 CFR Part 73

Extension of Dates for Submitting and for Implementing Security Plans in Response to Requirements for the Physical Protection of Special Nuclear Material of Moderate and Low Strategic Significance.

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission extends from March 20, 1980, to May 18, 1980, the date for submitting physical security plans or amendments thereto in response to § 73.67(c)(1) of 10 CFR Part 73. The Nuclear Regulatory Commission also extends from July 24, 1980, to September 21, 1980, the date for implementing NRC approved security plans, as provided in paragraph 73.67(c)(2) of 10 CFR Part 73. These extensions are made because of a 50-day delay in publishing the final guidance needed for implementing the rule.

EFFECTIVE DATE: March 25, 1980.

FOR FURTHER INFORMATION CONTACT: James A. Prell, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 Telephone: 301–443–5904, or C. K. Nulsen, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 Telephone: 301–427–4181.

SUPPLEMENTARY INFORMATION: On July 24, 1979, the U.S. Nuclear Regulatory Commission published in final form regulations entitled, "Safeguard Requirements for Special Nuclear Material of Moderate and Low Strategic Significance" (44 FR 43280). These regulations became effective 120 days later, with licensees being required to submit plans for protecting special nuclear material of moderate or low strategic significance by March 20, 1980, and to put into effect NRC approved security plans for implementing the rule by July 24, 1980. The 120-day delay was intended to allow time for (1) NRC to publish, for public comment, supporting guidance needed to implement the rule, the (2) NRC to incorporate comments received and to publish the guidance in final form. Because of extensive revisions to the guidance caused by both public and Commission comments, the final guidance was not published until January 10, 1980.

Since the publication of the guidance in final form was delayed by 50 days, licensees are being allowed 60 additional days for submitting security plans and for implementing the requirements of the rule. Accordingly, the Commission is amending its regulations by extending the date for submitting a security plan from March 20, 1980, to May 18, 1980, and the date for implementing the effective rule from July 24, 1980, to September 21, 1980.

Because this amendment relates solely to procedural matters, the Commission has found that good cause exists for omitting notice of proposed rule making, and public procedure thereon and for making the amendment immediately effective on March 25, 1980.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendment to Title 10, Chapter I, Code of Federal Regulations, Part 73 is published as a document subject to codification

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45 FR 37399
Published 6/3/80
Effective 7/3/80

10 CFR Part 73

Physical Protection of Irradiated Reactor Fuel in Transit

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Effective amendments to interim final rule.

SUMMARY: The Commission is amending its interim rule for the physical protection of irradiated reactor fuel (spent fuel) in transit which was issued on June 15, 1979. The interim rule and a related guidance document designated NUREG–0561 were issued in effective form without the benefit of public comment. Public comments were, however, solicited on both the interim regulation and the guidance document. This notice summarizes the comments, gives the Commission response to each, and sets forth the interim amended rule in final form.

EFFECTIVE DATE: July 3, 1980.

Note.—The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for review under the Federal Reports Act, as amended, 44 U.S.C. 3512. The date on which the record keeping requirement of § 73.37(b)(5) becomes effective, unless advised to the contrary, will be 75 days following publication in the **Federal Register.** This time period reflects inclusion of the 45 days which the General Accounting Office is allowed for its review (44 U.S.C. 3512(c)(2)).

FOR FURTHER INFORMATION CONTACT: Mr. L. J. Evans, Jr., Chief, Regulatory Improvements Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards. The telephone number is (301) 427–4181.

SUPPLEMENTARY INFORMATION: On June 15, 1979, the U.S. Nuclear Regulatory Commission amended 10 CFR Part 73 of its regulations to provide immediately effective interim requirements for the protection of spent fuel in transit. Concurrently, the NRC issued a guidance document (NUREG–0561) to assist licensees in carrying out the requirements. Both the amendment and the guidance document were published without benefit of public comment in the interest of the public health and safety. At the time of publication, the public was invited to submit its views and comments. After reviewing comments received from the public, and after taking into account the experience gained during the several months that the amendments have been effective, the Commission has decided to make a number of changes to the amendments and to NUREG–0561. All references to specific sections of the regulation refer to the June 15, 1979 version of the regulation, unless otherwise specified.

A. Following is a summary of changes to the amendments. These changes were, of course, accompanied by appropriate changes to NUREG–0561.

(1) *Small quantity shipments.* Some comments suggest that the scope of the rule should be revised to specify for spent fuel a threshold quantity below which protection requirements would not apply. The Commission agrees with this suggestion and has modified § 73.1(b)(5) and § 73.37(a) to set the threshold level at 100 grams in net weight of irradiated fuel (i.e., uranium, plutonium and associated fission products) exclusive of cladding or other structural or packaging material; thus shipments of spent fuel in quantities below 100 grams need not be protected. It is believed that the 100 gram threshold is in the public interest inasmuch as it would simplify the transport of small quantities, such as those made in connection with spent fuel research activities. The calculated average radiological consequences of successful sabotage of a shipment of 100 grams of spent fuel even in a heavily populated

environment are negligible.

The language of § 73.1(b)(5) and § 73.37(a) has also been changed to clarify which shipments are covered by the amendments. Shipments of material which are exempt from the requirements of § 73.30 through § 73.36 on the basis of the external radiation dose rate associated with such shipments, are now referred to in the regulations directly in terms of their dose rate, rather than in terms of their exemption from another rule. The guidance will clarify that the dose rate measurement in the case of smaller shipments, which may involve multiple packaging, should refer to the arrangement of shipment packages which results in the highest measurable external dose rate. This should eliminate any ambiguity which may arise from the possibility that the highest measurable dose rate for a grouping of several different packages comprising a single shipment may depend on the particular arrangement and orientation of the packages within the transport vehicle.

(2) *Transit through heavily populated areas.* Some comments suggest that the NRC modify its current embargo of shipments through heavily populated areas. These comments contend that truck shipments should not be required to depart from interstate highways, even in heavily populated areas. Some of these comments further contend that interstate highways are safer and faster than alternative routes, that police response time is faster along interstate than secondary routes, that hijacked shipments would be easier to locate on interstates, and that interstates offer saboteurs less advantage of protracted concealment. Comments noted that prior to the issuance of the regulation, routes were being chosen to avoid heavily populated areas and to minimize shipment time. Some comments contend that shipments protected by armed escorts as outlined in the guidance document should be permitted to transit heavily populated areas.

Other comments suggest that NRC continue to strengthen its current embargo on spent fuel transit through heavily populated areas. They ask that the "where practicable" exception in 10 CFR 73.37(a)(3) be eliminated. They also ask that the guidance document be modified to eliminate extra driving time as a basis for exception, unless there are overriding safety and safeguards considerations. Some comments suggest that the NRC emphasize the use of routes through areas of low population density.

The NRC considered two alternative protection strategies. Under the first alternative, shipments would be planned to avoid heavily populated areas where practicable. Preliminary analysis indicated that most spent fuel shipments would move by road and suggested that avoidance of heavily populated areas is generally practicable. This alternative became the basis for the rule issued on June 15, 1979. The chief benefit of this alternative is that it takes advantage of the fact that sabotage of spent fuel must take place in a heavily populated area if the serious consequences discussed in a Sandia Report (SAND 77–1927) are to be obtained. The necessary conditions for successful sabotage would thus entail the adversary gaining control over the shipment, moving it to a heavily populated area, and then placing and detonating the necessary explosive charge. It is believed that the measures set forth in the June 15, 1979 regulation are capable of interrupting this sequence of events. The principal disadvantage of this protection strategy stems from the fact that the highway system is designed to connect population centers, and therefore major highways pass near or through the population centers. Avoidance of heavily populated areas leads to the use of secondary roads. Compared with interstate highways, these secondary roads are characterized by a higher likelihood of conventional traffic accident, by longer times in transit, by less frequent patrolling by the local law enforcement agency (LLEA), and by lengthened response times in the event that LLEA assistance is requested.

Under the second alternative, shipments would be permitted to transit heavily populated areas under armed escort. The significant advantages and disadvantages of the first alternative are interchanged in the second alternative. In the second alternative, highways are the best available, the likelihood of a conventional traffic accident is reduced, total travel time for the shipment is reduced, the roads are more frequently patrolled by the LLEA, and the LLEA response time in the event of a call for assistance is reduced. On the other hand, spent fuel would be within heavily populated areas on a planned basis some of the time, thus satisfying one of the necessary conditions for successful sabotage with potentially serious consequences.

The Commission has decided that there is no clear advantage of the one alternative strategy over the other. Accordingly, the rule has been revised to allow either protection strategy to be used. The revised provisions make it clear that either (i) avoidance of heavily populated areas, or (ii) passage through heavily populated areas on approved routes employing additional protective measures, which are delineated in § 73.37(c)(1), (d)(1), and (e)(1) are acceptable routing alternatives. The Commission retains its earlier position that interstate highways should be used whenever possible.

(3) *Performance objectives.* Some comments suggest that the NRC should provide criteria and guidelines for the use of force for the protection of spent fuel shipments. Another comment suggests that the regulation and guidance be modified to clarify whether escorts have the duty to defend spent fuel shipments or merely to detect and report threats to the shipment. The amendments have been modified to include a new section, now designated as § 73.37(a), which provides performance objectives to be achieved by the physical protection system for spent fuel shipments. These performance objectives do not specifically address the issue of the degree of force escorts are to use in protecting shipments, but indicate the general level of protection that is to be provided by the entire physical protection system. Within heavily populated areas, armed escorts are expected to carry out their assigned duties, including implementation of emergency procedures in case of attack, under the same legal umbrella extended all other private guards (or law enforcement personnel, in the case LLEA personnel are employed as escorts).

(4) *Clarification of certain terms.* Some comments request that certain troublesome phrases in the regulation be clarified. With respect to § 73.37(a)(3), which requires that "the route is planned to avoid, where practicable, heavily populated areas," comments request that the phrase "where practicable" be clarified. In § 73.37(d), which requires that " * * * if it is not possible to avoid heavily populated areas, the Commission may require, depending on individual circumstances of the shipment, additional protective measures," comments request that the phrases "not possible" and "additional protective measures" be clarified. The requirements have been revised and the troublesome phrases have been eliminated or clarified.

(5) *Calls for assistance.* Some comments present the concern that the rule does not require that escorts communicate directly with the LLEA in the event that LLEA assistance is required. The Commission agrees with this concern. The regulation has been modified to explicitly require that escorts communicate directly with the LLEA in the event LLEA assistance is required.

(6) *Road shipments:* Immobilization. Some comments are concerned with the safety consequences of immobilization and that inadvertent operation of the immobilization device could lead to a serious accident. Some comments

suggest that immobilization of both the tractor and the trailer (rather than the tractor or trailer) should be provided. Some comments suggest that the method of immobilization should be specified and approved by the NRC rather than allowing the method to be specified by the licensee. Other comments suggest the NRC analysts consider strengthening the immobilization requirement while simultaneously reducing the number of escort personnel required. Finally, one comment suggests that LLEA's along the route should be familiarized with the immobilization technique in the event that the need should arise to move a vehicle following activation of the immobilization device.

The NRC is concerned with the possible safety consequences of immobilization. The method of immobilization proposed by the licensee was intended to be reviewed by the NRC for its safety implications. The regulation has been modified to specifically require that the method of immobilization be approved by the NRC prior to the making of shipments. The intent of the regulation and the related guidance is to assure that, when operated, the immobilization device will delay movement of the spent fuel shipment for at least one-half hour. The immobilization provision is essentially a performance requirement that can be complied with by immobilizing the trailer or the tractor or both. The guidance has been reviewed and appears to be clear on this point.

It is also intended that the licensee should have the opportunity to use his ingenuity and skill in determining how to best accomplish the immobilization. Accordingly, the particular method of immobilization required has not been specified.

The staff recognizes that a licensee might develop alternative methods of immobilization. The staff will evaluate any proposed method of protection and will approve the proposal if it provides adequate protection against sabotage occurring in heavily populated areas.

The staff believes that it would be self defeating to familiarize a large number of individuals with the immobilization technique, with a view toward constructive use of this information in the event that the need should arise to move a vehicle following immobilization. Instead, the guidance document has been revised to suggest that the possible need for traffic control following operation of the immobilization device should be considered by the licensee when preparing the operating procedures for the shipment.

(7) *Road shipments: Training.* Some comments suggest a significant expansion of the driver and escort training program. Some of these comments suggest that the training curriculum should include training in anti-sabotage and in initial response to spills of radioactive material. Some comments suggest that clarification of the level of proficiency needed to satisfy the training curriculum of Appendix D should be provided. One comment contends that some of the topics in Appendix D are superfluous. Another comment suggests that the training curriculum in Appendix D should apply to drivers as well as escorts. One comment suggests that the training program should emphasize safe driving techniques.

The driver and escort training requirements have been reviewed and the regulations and guidance have been adjusted accordingly. The revised amendments include specific requirements for familiarization of the driver and LLEA personnel with certain safeguards procedures, and inclusion of a weapons training and qualifications program for escorts who are armed. The Commission has decided that the training requirements, as revised, are consistent with the duties and responsibilities of the drivers and escorts.

(8) *Rail shipments: Route restrictions.* Some comments content that rail transport is penalized, compared with truck transport, through the lack of realistic alternative routes. The regulation has been modified to permit transport through heavily populated areas. One effect of that change is to eliminate the need for alternative rail routes which avoid heavily populated areas.

(9) *Rail shipments: Stops:* Some comments ask that the regulation and guidance pertaining to planned rail stops be modified to allow for the crew changes that take place every 100–200 miles. The comments also point out that rail shipment planners cannot meet the current stop criteria, which would permit stops only for refueling and provisions. These suggestions were adopted and the regulation and guidance document have been modified accordingly.

(10) *Shipments by sea.* Some comments suggest that the rule be expanded to include requirements for the protection of spent fuel aboard ships and boats. A review of the rule as published June 15, 1979, will show that § 73.1(b)(5), § 73.37(a), and § 73.37(d) apply to shipments independent of the mode of transport. However, in the interest of clarity, the rule has been revised to include a new section specifically addressing the protection of spent fuel shipments aboard vessels. New guidance has been added to NUREG–0561, accordingly.

(11) *Written log.* The original version of NUREG–0561 contained a chapter describing a written log to be kept by shipment escorts during the course of a spent fuel shipment. The purpose of this log was to provide a durable record of the circumstances surrounding a given shipment, to support inspection and enforcement functions of the NRC, and form the basis for any further regulatory actions regarding spent fuel shipments, in general. It was determined that this guidance needed to be given a firm regulatory basis by specifically requiring the maintenance of a written log in the regulations. These requirements are comparable to the recordkeeping requirements of § 73.70, which cover shipments of other types of special nuclear material.

(12) *Communications center.* The amendments published on June 15, 1979, included requirements for calls by escorts to a "designated location," for purposes of monitoring the spent fuel shipment. Further details regarding the duties of personnel at this designated location were included in the guidance document, NUREG–0561. It was determined that further detail regarding this safeguards function would be desirable so as to give the detailed guidance included in NUREG–0561 a firm regulatory basis. The facility at the designated location has been termed the "communications center," and is now described in the regulation.

B. In some instances, the comments showed a need for modification of the guidance document alone. Following is a summary of those changes:

(1) *Definition of heavily populated areas.* A number of comments suggest that the definition of a heavily populated area be modified in various ways to permit more areas to qualify. Some point out that the present definition causes certain cities to be excluded from the list of heavily populated areas provided in the guidance document even though they have populations or population densities greater than some of those which were included. These anomalies were explained to arise from failures to take into account the combined populations of contiguous cities in the same urbanized area and the total populations of urbanized areas. Other comments suggested that areas with large temporary populations such as colleges be included although their permanent populations would not otherwise qualify the areas as heavily populated areas. Some comments suggested that specific cities be added to the list of heavily populated areas.

Reconsideration of the bases for defining heavily populated areas has led to a broader definition which is included in the revised guidance document. Accordingly, the number of urbanized areas listed as heavily populated areas is increased to approximately 180.

The NRC would like to take temporary population centers into account in determining whether an area qualifies as a heavily populated area. However, there are no readily available census figures upon which the NRC presently can base such determinations. Therefore, the NRC invites officials of temporary population centers to submit, to the NRC, information in support of including that area in the list of heavily populated areas.

This same mechanism will be used to assist in the continuous updating of the list relative to those areas meeting the population criteria.

(2) *Road shipments: Criteria for selection of highways.* Some comments suggest that NRC guidance should include a prioritizing or ordering of the various highway types (interstate, 4 lane, 2 lane marked, 2 lane unmarked, etc.) to aid licensees in the selection of alternative routes. One comment suggests that routes used in the past for spent fuel shipments, including routes used for military spent fuel shipments, should be approved automatically. The suggestion to prioritize route highway-types was adopted and the guidance in NUREG–0561 has been amended to include suitable criteria. Routes used for spent fuel shipments prior to the issuance of the interim rule, however, will not be automatically approved inasmuch as those routes, like all other proposed routes, must meet current criteria before approval.

(3) *Road shipments: Criteria for detours.* Some comments express concerns about detours from pre-planned routes. Some of these comments ask that the guidance document be modified to provide better criteria for determining when detours are appropriate. These comments also suggest that the NRC, rather than the licensee, should produce the guidelines. Some comments are concerned that once a shipment is en route, implementation of the detour procedures set forth in the guidance document might not be possible. Some comments suggest that LLEA's should be notified at the outset of each unplanned detour. In response to these suggestions, the guidance document has been modified to set forth some new guidelines to be followed in detour situations. However, except for the obvious instance of where a shipment is being escorted by LLEA personnel, it is believed that the LLEA need not be notified of each detour inasmuch as the agency is not expected to do anything differently as a result of a detour.

(4) *Rail shipments: Advance notification.* Comments indicate that not all of the required advance notification data can be provided in advance of a rail shipment; among these data are routing, specification of stops, and cask serial numbers. Some comments contend that some of the information specified in the guidance document may be irrelevant to rail shipments. These suggestions were generally adopted. The guidance document has been modified to clarify advance notification requirements for rail shipments.

(5) *Rail shipments: Unanticipated route changes.* Some comments suggest that the rule and the guidance should be modified to allow for the unanticipated route changes that sometimes occur in rail transport. This suggestion was adopted by modifying the guidance document.

C. The Commission also received a number of comments and suggestions which were considered but which did not lead to changes to the amendments or to NUREG–0561. Following is a discussion of those comments:

(1) *Justification for the rule.* Some comments contend that the NRC has not provided proper or sufficient basis for the new regulation.

(a) Some comments ask that the NRC not modify its regulations on the basis of unproven information in draft form, such as the Sandia report. The Commission has decided that there is an adequate basis for interim requirements for the protection of spent fuel shipments. The NRC continually reexamines the adequacy of its regulations for the protection of the public health and safety against deliberate acts. Part of this reexamination consists of studies and research projects. One of these studies, conducted by Sandia Laboratories and published in draft form in May 1978 as SAND–77–1927, concluded that serious public health consequences could result in the event of successful sabotage of a spent fuel shipment in a heavily populated area. Although a later draft Sandia report predicts less serious consequences, a significant degree of uncertainty remains that can only be resolved by further study. The Commission is currently pursuing a research effort to resolve these issues. While awaiting the results of this research the Commission believes that it is prudent to retain these requirements on an interim basis. When the final research results are analyzed the NRC will either modify, continue, or rescind 10 CFR 73.37, whichever is appropriate, based on those results.

(b) Other comments point out that the NRC should regulate on the basis of risk, a concept wherein risk equals the product of the consequences of an event, such as sabotage, and the probability of the event. Inasmuch as the NRC has no basis to specify an identifiable threat, some comments conclude that the probability of sabotage is insufficient to justify a legitimate concern.

NRC has not pursued quantitative risk studies for safeguards because of extreme difficulty in adequately quantifying the various factors contributing to risk. This view was expressed in the Reactor Safety Study (WASH 1400) and sustained by the Lewis panel's peer review of that document. The Lewis Panel Report (NUREG/CR–0400) states: "The risk from sabotage was not calculated in the Reactor Safety Study. The omission was deliberate, and proper, because it was recognized that the probability of sabotage of a nuclear power plant cannot be estimated with any confidence." Similarly, estimates of the probability of successful sabotage of spent fuel shipments cannot be made with any confidence.

In their report (NUREG/CR–0400) the Lewis panel points out that, even with "realistic" risk estimates, further conservatisms must be incorporated in the regulatory process. In the absence of "realistic" risk estimates, it is even more important to incorporate conservatisms in regulatory decision making. This is the approach taken in safeguards.

We know of no attempts to sabotage spent fuel shipments in a manner leading to a significant radiological release. But we have conservatively assumed that such a sabotage act might be attempted. Furthermore, we have tried to determine, logically and systematically, the characteristics of persons who might attempt to perpetrate such crimes. The results of our threat characterization work have been published as NUREG–0459, *Generic Adversary Characteristics Summary Report.*

Another factor in making a determination concerning the probability of successful sabotage is the reaction of spent fuel to sabotage. It is generally agreed among analysts that the serious consequences discussed in the Sandia report could result only if sabotage is carried out in or near a heavily populated area and only if some of the normally solid spend fuel contained in a massive, durable cask is somehow released as respirable particles. It is further agreed among analysts that the only credible way to carry out such sabotage is through the skillful use of explosives. The reaction of spent fuel and spend fuel casks to explosive sabotage is subject to large uncertainty. A research program is being carried out to improve our understanding, but the program will likely not yield useful results for approximately one year.

The Commission frequently uses the concept of risk in its deliberations concerning the need for new regulations and did so in this case. The Commission found that the likelihood of successful sabotage is uncertain inasmuch as the existence of a credible adversary organization cannot be ruled out and the response of spent fuel and spent fuel casks to credible explosive sabotage is subject to large uncertainty. With respect to consequences, it appears that the release of a small fraction of the inventory of a spent fuel casks as respirable particles could produce serious consequences in a heavily populated area. On this basis the Commission has decided to generally let stand these requirements designed to protect spent fuel shipments against sabotage in heavily populated areas on an interim basis. The need for permanent requirements will be reconsidered when the results of the research program become available.

(c) with respect to the Sandia report, the staff notes that the latest draft of the report projects sabotage consequences less serious than are set forth in the May 1978 draft, and cited by the NRC as the basis for the rule. Another comment points out that even the consequences set forth in the May 1978 Sandia Draft, are not that much more serious than those of a severe accident, the risk of which the NRC appears to be willing to accept.

As mentioned above, a later draft of the Sandia report issued during September 1979, estimates less serious consequences than the May 1978 version, partly because the May version assumed larger amounts of material released as a result of sabotage. In view of the continuing uncertainities concerning the release fraction, the Commission has decided it is purdent to, in the interim, protect spent fuel in-transit.

(d) Other comments point out that Department of Energy (DOE) analysts have concluded that the rule is premature and inappropriate. The comments also point out that DOE does not require protection of spent fuel shipments for which it is responsible.

The Commission notes that the DOE and the NRC have access to the same information and that DOE has decided not to require protection for the spent fuel shipments for which it is responsible. Despite the policy of NRC and DOE to have comparable requirements for the protection of nuclear materials, the Commission accepts the fact that from time to time reasonable administrators will differ temporarily on the difficult question of what constitutes adequate safeguards. Both agencies are developing additional information on the issues and are coordinating with one another. It is believed that the differences in positions of the two agencies are temporary and will be resolved as new information, such as that from the research program discussed above, becomes available.

(e) Other comments argue that adequate protection is provided by the durable containers in which spent fuel shipments are made.

The Commission agrees that the massive, durable casks in which spent fuel shipments are made provide a high degree of protection against many kinds of sabotage, including explosive sabotage. However, in view of the uncertainties in predicting the response of spent fuel and spent fuel casks to explosives, the Commission believes that it is no longer purdent to depend upon cask design alone to protect against sabotage in heavily populated areas. Accordingly, until additional information can be developed to resolve some of the present uncertainties concerning the response of spend fuel to explosives, the Commission has decided that spent fuel shipments should be protected as specified in 10 CFR 73.37, as modified.

(f) Some comments question the need for significant, costly protection measures for rail casks. They point out that rail casks are more substantial than truck casks and that according to Sandia, successful sabotage entails even more explosives and skill than for truck casks. The comments further point out that there is no record of hijacking trains, and therefore the movement of a hijacked train from a low population area to a high population area seems quite remote. Comments also point out that protection measures for rail shipments in heavily populated areas already include frequent surveillance by railroad police and are therefore adequate.

The referenced Sandia Report indicates that similar uncertainties apply to possible explosives attacks on both road and rail shipments. Even though rail shipments would most likely require a higher level of adversary resources for successful sabotage, such sabotage is considered possible for both road and rail modes. The Sandia Report states in particular that attacks on rail casks using shaped charges is possible since the requisite materials can be carried by men on foot. Moreover, the likelihood that available rail routes would include passages through heavily populated areas diminishes the importance of the consideration that it would be more difficult for an adversary to illicitly move a hijacked train from a less densely populated area to a heavily populated area. Protection for rail shipments, therefore, is still required.

(2) *Adequacy of protection requirements.* Some comments state that protection of spent fuel shipments under the interim rule is not adequate against terrorist action. These comments argue that protection equivalent to that already given strategic special nuclear materials is needed.

Some comments suggest that NRC should require licensees to justify all spent fuel shipments by considering all possible alternatives to the making of shipments.

One of the most frequent comments favored an embargo of spent fuel shipments until a permanent storage facility is established. Thereafter, spent fuel shipments would be permitted only to that facility.

Some comments contend that the additional measures required for movements through heavily populated areas are too weak to deter or to provide protection against successful sabotage; these comments ask that the regulation be modified to indicate additional safeguards and list them in detail.

One comment suggests that for any given heavily populated area the protection measures required should be similar for all shipments, rather than allowing various options for each shipment.

The Commission considered a number of sets of measures for the protection of spent fuel shipments. One of these sets of measures would have provided that spent fuel shipments would be protected equivalently to shipments of formula quantities of strategic special nuclear material (SSNM), which must also be protected against theft. However, 10 CFR 73.6 of the Commission's physical protection rules for SSNM specifically exempts spent fuel which is not readily separable and which has a total external dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding. Such materials possess intrinsic protection against theft and are not readily usable to fabricate nuclear explosives. Nevertheless, the Commission considers it prudent to require some additional measures to protect spent fuel against radiological sabotage.

Shippers of spent fuel must submit route information and security plans to the NRC for authorization to carry out the shipment. The NRC thus has the opportunity to review the shipper's plan for the shipment and to assure that he has considered alternatives to the making of the shipment.

The Commission reaffirms its judgment that spent fuel can be shipped safely without constituting unreasonable risk to the health and safety of the public. Accordingly, the Commission does not believe that it is necessary to prohibit spent fuel shipments until a permanent storage facility is established.

Some requirements of the regulation, particularly regarding transiting urbanized areas, have been changed considerably in this later version. Given these changes, the Commission has decided that the protection level required reasonably protects the public against risk from sabotage of spent fuel shipments. The escort force has the capability to call for assistance and in a heavily populated area, local law enforcement authorities could be on the scene within minutes. Within a heavily populated area, the escort force is armed and therefore has the potential to prevent sabotage until local authorities arrive.

The Commission is seeking adequate protection for shipments which must pass through heavily populated areas. In the Commission's view, an adequate level of protection can be provided by either private guards or law enforcement personnel.

(3) *Liability limits.* One comment suggests that no shipments of spent fuel should be permitted unless the shipper carries private liability insurance without limit. Other comments favor informing the public of the liability limits currently in force for shipments.

The Commission has not at the present time extended indemnity coverage to spent fuel shipments on a generic basis. However, spent fuel shipments are indemnified while in the course of transportation to or from an indemnified facility (principally nuclear reactors). Indemnity coverage for spent fuel shipments to or from reactors terminates at the point at which transportation ends.

The provisions of Section 170 of the Atomic Energy Act of 1954, as amended, require production and utilization facility licensees, i.e., reactors and reprocessing plants to have and maintain financial protection (e.g., nuclear liability insurance) to cover public liability claims resulting from a nuclear incident. The Commission is also directed to enter into protection and indemnify the licensee for up to $500 million in excess of that financial protection.

The indemnity protection afforded the public for accidents arising during transportation is derived from the coverage provided under the insurance policies maintained by licensees of reactors and reprocessing plants and in the indemnity agreements executed by these licensees with the Commission. The coverage under the policies and indemnity agreements incorporated the so-called "omnibus" provisions of the Price-Anderson Act. Under the "omnibus" coverage liability protection extends not only to the liability of the licensee, but also to any other person who may be liable, such as a transporter. However, there would be no Price-Anderson Act protection (or limit on liability) under facility licensees' insurance policies and indemnity agreements once a shipment was highjacked and placed beyond the control of the transporter. Extension of the Price-Anderson Act protection to cover incidents occurring after a shipment has been highjacked is beyond the scope of this rulemaking.

(4) *ALARA implications.* One comment suggests that the implications of the rule with respect to the Commission policy of maintaining radiation exposure levels as low as reasonably achievable (ALARA) should be examined.

The Commission has not at the present time extended indemnity coverage to spent fuel shipments on a generic basis. However, spent fuel shipments are accidents involving radioactive material shipments are sufficiently small to allow continued shipments by all modes. Because transportation conducted under present regulations provides adequate safety to the public, the staff concludes that no immediate changes to the regulations are needed at this time. This determination is partly based on the conclusion in NUREG–0170 that the average radiation dose to the population at risk from normal transportation is a small fraction of the limits recommended for members of the general public from all sources of radiation other than natural and medical sources and is a small fraction of natural background dose.

The staff has examined the ALARA implications of the rule for the specific case of spent fuel shipments by truck. Calculations indicate that routine exposure from shipments routed around cities would likely be about 30% higher than the small but calculable routine exposure for similar shipments routed through cities. The Commission considers that this difference in such small routine exposures is not a significant health factor and therefore not to be considered a significant factor in the choice of routing.

(5) *Transportation mode.* Some comments suggest that the scope of the rule should be expanded to require licensees to examine alternative transportation modes for shipments.

The Commission agrees that alternative modes of transportation should be considered during the development of a program for the protection of spent fuel shipments against sabotage. The characteristics of alternative modes have been considered in the revised rule and suitable measures have been developed for road, rail and water transport. Accordingly, a licensee may choose the mode of transportation for his shipment on the basis of considerations other than safeguards.

(6) *High level waste.* Some comments suggest that the scope of the rule should provide requirements for the protection of high level waste shipments.

No licensed shipments of high level waste are presently being made. Only a few facilities currently possess high level waste. Shipments of the waste from a facility at which it now resides to another facility would involve the amendment of one or more licenses. At that time, appropriate requirements would be issued.

(7) *Test reactor fuel shipments.* Comments suggest that the staff consider relaxing protection requirements for test reactor spent fuel in recognition of the fact that it contains no free radioactive gases.

The revised rule has not been modified to reduce the protection requirements for test reactor spent fuel. Fission gases would account for only a tiny fraction of the calculated health effects. Solid, respirable material would account for most of the health effects.

(8) *Distinction between guidance documents and regulations.* Public comments on both the amendments published in the **Federal Register** and the supporting guidance document (NUREG–0561) were received. Some comments apparently mistake the guidance document for a regulation and therefore conclude that the supposed regulation is too loosely worded. Other comments apparently reflect only the regulatory amendments and suggest that the amendments alone are worded too loosely to be effective.

Following is a discussion of the distinction between regulations and guidance documents. Regulations set forth legal requirements that licenses must follow. The NRC is empowered to inspect against and enforce the provisions of its regulations. Regulations without exception carry the approval of the Commission. Guidance documents, on the other hand, can be prepared and issued by the staff. The documents are not legally binding upon licensees. The primary purposes of the guidance documents are: (1) To describe and make available to the public the intent and scope of application of the regulatory provisions, (2) in some cases, to provide alternative methods that are normally acceptable to the NRC staff for implementing specific parts of the Commission's regulations, (3) in some cases, to delineate techniques used by the staff in evaluating specific problems, and (4) to provide guidance to applicants concerning certain information needed by the staff in its review of applications for permits and licenses. Guidance documents are not intended as substitutes for regulations and, therefore, compliance with guidance documents is not required.

(9) *Licensee costs.* Some comments contend that the cost estimates developed by the staff are too low. One comment suggests that the cost for truck transportation would be at least double that estimated by the NRC staff and probably much higher. Another comment states that truck transportation cost is approximately double that estimated by the staff even before the cost of safeguards required by the rule are added in. One comment places cost in the range of twenty million dollars per year by assuming ten thousand shipments per year circa 1985. Comments argue that staff estimates of rail costs are in even greater error than staff estimates of truck costs; these comments conclude that rail shipments must be made in special trains in order to satisfy the rule and that, therefore, the cost of each rail shipment will be in the range of twenty to forty thousand dollars.

With respect to truck shipments, our latest information indicates that as many as 500 shipments might occur during calendar year 1980. The number of possible shipments is currently limited by the number of shipment casks available. Even if new casks were quickly manufactured, allowing the number of shipments to double, the Commission notes that the interim rule is designed to be in effect only until about mid CY81, and therefore, believes that the high cost estimates stemming from protection of large numbers of spent fuel shipments circa 1985 are not appropriate or relevant. With respect to rail shipment costs, the Commission disagrees with the contention that special trains are needed to meet the requirements for rail shipments, and therefore, rejects the high cost estimates which are based on the use of special trains.

(10) *Cost-benefit study.* Some comments suggest that the NRC should provide a cost benefit analysis in support of the regulation. Comments also suggest that the requirements of the rule should be clearly defined and should be cost effective. They argue that regulations must be cost effective in order to be meaningful and must avoid being arbitrary or capricious or an abuse of discretion. Some comments suggest that the rule is not cost effective in its present form.

This interim rule is expected to be in effect for a year or two. Recent figures indicate that if the maximum number of potential shipments occur, the requirements may result in a cost of about five hundred thousand dollars per year, distributed over a number of licensees. The addition of protection measures for spent fuel shipments does not have a significant effect on the environment. After taking into account the cost, the duration, and the absence of significant impact on the environment, the Commission has decided that a detailed cost-benefit study is not needed for this interim rule. Although a detailed cost-benefit study was not performed, the general costs and benefits resulting from this rule have been reviewed, as have the potential consequences of sabotage of spent fuel shipments to the public health and safety. A decision has been made that the benefits from reducing the probability of occurrence and potential consequences of spent fuel shipment sabotage justify the cost of the requirements. A detailed cost-benefit study will be prepared in support of any permanent rule that is issued.

(11) *Preemption.* Some comments urge that the NRC preempt state and local restrictions on spent fuel shipments. Some comments seek to preempt those state and local ordinances in conflict which would ban or otherwise restrict shipments or which would require rerouting of shipments over secondary roads, with an attendant increase in safety hazard.

Some comments argue that preemption would lead to a more responsible national policy concerning uniformity of spent fuel transport regulations. Some comments favoring preemption suggest that the NRC should take into account state and local concerns when drafting federal regulations. One comment suggests that NRC eliminate from its rule references to local ordinances as a basis for rerouting shipments; this comment concludes that a local community should not be able to prevent the use of a route acceptable to the NRC. One comment suggests that the regulations make clear that local ordinances with the NRC rule would be preempted.

Other comments took the opposite view of preemption. These comments declare that local communities have the right to be more restrictive than the NRC in the regulation of spent fuel shipments which they perceive as threatening their safety.

To date, the NRC has contested a local ordinance that regulates the transport of nuclear materials only once (United States v. New York City (S.D.M.V. No. 76 Civ. 273)). In this case NRC, ERDA (now DOE) and DOT sought a judgment declaring a New York Health Code provision to be inconsistent with the Federal Statutory scheme for transportation of nuclear materials. On January 30, 1976, a United States request for a preliminary injunction barring enforcement of the local ordinance was denied.

On August 17, 1978, the Materials Transportation Bureau of the DOT published an advance notice of proposed rulemaking (43 FR 36492) dealing with the subject of highway routing of radioactive materials. On October 26, 1978, the DOT published a notice (43 FR 50006) of its intention to hold a public hearing on this subject in Washington, D.C., on November 29, 1978. On January 31, 1980 the DOT published for public comment a proposed rule dealing with the highway transportation (including Federal routing requirements) of radioactive material. The DOT has expressed its intention to publish a final rule on this subject by the end of 1980.

Where state law is consistent with new Federal regulations promulgated under the Hazardous Materials Transportation Act (HMTA) or where the state in a legitimate exercise of its police power imposes general, non-radiological constraints (e.g., speed limits, load limits) on all truck transportation, the Commission does not presently contemplate actions to preempt the enforcement of these laws. However, the Commission reserves judgment on whether it may become necessary to seek such preemptive action in a limited way (e.g., where specific route considerations are at issue) prior to the time the DOT regulations become effective. Once the DOT regulations on this subject become effective, there appears a strong possibility that inconsistent state and local rules may be preempted on a broader basis.

(12) *Information on routes and schedules.* Some comments suggest that the NRC adopt a liberal policy concerning the information on routes and schedules that would be made public. These comments suggest that route information should be published in the **Federal Register**; subsequently the NRC should hold public hearings (or provide some other means for public input) on routes. These comments further suggest that NRC should contact state and local authorities before granting a route approval. Some comments conclude that a local

population has better knowledge of routes than could be developed by NRC surveillance teams, thereby allowing the defects and advantages of alternate routes to be more adequately considered. Comments suggest that the state and local authorities should be notified of details of routes. Comments also suggest that state and local authorities should be notified in advance of the schedule of each shipment. Some comments suggest that state and local authorities should take steps to have emergency response and law enforcement organizations alerted and on duty at the time spent fuel shipments are made.

Other comments suggest that the NRC should adopt a conservative policy with respect to information on routes and schedules. These comments suggest that NRC withhold information on routes and schedules, pointing out that information certified by the NRC would be valuable to potential saboteurs. The comments also point out that it is a principle of security that sensitive information should be restricted to the minimum number of people. These comments conclude that the NRC should restrict dissemination of route and schedule information to a limited number of elected and appointed state and local officials who should be requested or required to avoid making the information public.

Current staff policy concerning information on routes and schedules is to generally withhold this information from public disclosure. However, in one recent specific instance, the Commission decided that information on staff-approved routes should not be withheld. It noted, however, that the decision was case-specific and should not be considered a precedent.

(13) *Consolidated notice.* Some comments note the proliferation of local ordinances requiring advance notice and ask that the NRC establish in its rule such that only the NRC need be notified. The NRC could then notify state and local agencies as it deems necessary.

Adoption of this suggestion would imply that the NRC rule preempts local ordinances calling for advance notification of shipments. As was noted earlier, the NRC has not yet contested local ordinances that regulate the transportation of spent fuel. Although this suggestion will not be adopted at this time, it will be re-evaluated when DOT routing rules go into effect.

(14) *Need for comprehensive study.* One comment suggests that a comprehensive study of ports of entry for import of spent fuel shipments and subsequent routes is needed; the proposed principal criteria for selection of a port or route would be to affect the least population in event of sabotage.

In consideration of the Commission's revised position relative to avoidance of heavily populated areas; i.e., that passage through a heavily populated area, on approved routes, when supported by additional measures such as armed escorts, is acceptable, the Commission does not regard ports-of-entry as a particular problem area with respect to routing. Ports that are also listed as heavily populated areas will require the additional protection.

(15) *Expansion of response capabilities.* Some comments propose a significant expansion of capabilities for responding to accidents or sabotage. These comments suggest that all emergency response units in all communities along the route submit response plans to the NRC for approval. Some comments suggest that all emergency response units in all communities along the route submit response plans to the NRC for approval. Some comments suggest that these response units should be required to conduct drills. Other comments proposed that LLEA personnel along the route be trained to deal with radiological releases. Some comments suggested that the shipper should provide an escort capable of handling all emergency situations. Some comments also suggest that the NRC should help to develop these various emergency response units. Some comments suggest that the shipper should be responsible for the preparation of emergency plans, while others suggest that the NRC shoud be responsible. Some comments ask that provisions be made for local governments to approve licensee emergency response procedures and emergency plans.

These suggestions appear to be prompted, at least in part, by the provisions of 10 CFR 73.37(a)(6) which require a licensee to develop procedures for coping with threats and safeguard emergencies. As is noted in NUREG-0561, the purpose of this requirement is to provide for the development of a plan to be used by drivers, escorts, licensee personnel and other individuals involved in a shipment in case of threats, attempted sabotage, or other events that jeopardize the security of a shipment. The larger question of emergency plans, emergency preparedness, emergency response and the like are judged to be beyond the scope of these interm safeguards requirements. Recent staff views on these questions are available in *NUREG-0535—Review and Assessment of Package Requirements (Yellow Cake) and Emergency Response to Transportation Accidents.*

(16) *Arrangements with LLEA: Clarity and feasibility.* Some comments request that the NRC clarify its description of what constitutes acceptable arrangements, who must be contacted, and whether the arrangement or contact with the LLEA must be documented. One comment suggests that the licensee's responsibility with respect to this requirement be limited to maintaining an up-to-date list of telephone numbers and contacts in LLEAs.

One comment points out that the case of transcontinental shipment, a very large number of LLEAs would have jurisdiction along the route and that contacting all of them would not be feasible.

Under current practice, the NRC staff makes the initial contacts and arrangements with LLEAs as part of the approval process. Accordingly, the concerns set forth in the comment do not appear to be justified since the relevant burdens have been assumed by the NRC staff.

(17) *Arrangements with LLEA: Information security concerns.* Some comments suggest that coordination with LLEAs along the route would be tantamount to annoucing the route and would therefore be contrary to good information security practice.

During the coordination process, the NRC staff informs LLEAs of the importance of protection of spent fuel and asks that the agency not disclose sensitive information, such as routes, that would be helpful to a saboteur. The agencies have generally been cooperative. Accordingly, NRC practices were not changed as a result of the suggestion.

(18) *LLEA capabilities.* One commenter notes his experience which suggests that LLEAs in heavily populated areas are unwilling or unable to provide the additional protection suggested by the NRC for shipments through heavily populated areas.

NRC staff experience is at variance with the experience of this commenter. Staff experience is that LLEAs have been very cooperative in assisting in the protection of shipments of nuclear materials. Also the rule allows for private armed escorts, instead of LLEA personnel, to be used to protect shipments. For these reasons, no changes were made in the regulation or the guidance as a result of this comment.

(19) *Road shipments: Alternative routes.* Some comments suggest that NRC route approval policy should include approval of a reasonable

number of alternative routes. The comments suggest that the approvals remain valid indefinitely.

Current staff policy is to approve a number of alternative routes. The actual number of routes that can be approved is, of course, limited. Once a route is approved, the approval would remain valid until new information suggests that the approval should be withdrawn.

(20) *Road shipments: Rush-hour concern.* One comment suggests that in the event of routing through a heavily populated area, the scheduling should be planned so as to avoid the local rush hour traffic.

The staff performs route surveys, including route surveys through heavily populated areas, and makes arrangements with LLEAs along the route of the shipments for their response to an emergency or a call for assistance. Rush-hour concerns are taken into account during this planning.

(21) *Road shipments: Route planning.* Some comments contend that the information given in the guidance document and in the related reference documents does not provide detail sufficient to distinguish and select highway routes.

The staff agrees with the comments, but notes that the Census Bureau data supplemented by local road maps jointly provide a sufficient basis for route selection. Furthermore, the revised rule allows greater use of interstate highways, which should make route selection easier. Accordingly, no changes were made in the regulation or guidance as a result of this comment.

(22) *Road shipments: Drivers.* Some comments suggest that the NRC should confer more closely with the DOT inasmuch as it appears that some driver requirements imposed by NRC are in conflict with DOT requirements. One comment suggests that 10 CFR 73.37(b)(1) be modified to specify two trained drivers rather than one. Comments suggest that in view of the potential consequences from accidents, drivers should operate spent fuel shipment vehicles in the safest and most reassuring way in order to instill public confidence.

With respect to the coordination suggestion, the staff notes that in accordance with the terms of a Memorandum of Understanding, the latest version of which was published in the **Federal Register** on July 2, 1979, the NRC and DOT have agreed to advise and consult with one another before either issues a new regulation. This procedure was followed before issuance of this regulation. The DOT review did not reveal any conflicts between DOT regulations and the NRC interim regulation. The suggestion that the requirements of 10 CFR 73.37(b)(1) be modified to make explicit that two properly trained truck drivers satisfy the requirement was not adopted because the original phrasing already permits that option. The suggestion that two truck drivers rather than one should be required was not adopted because there appears to be no adequate safeguards justification. The provision is allowed to stand because it allows greater flexibility for the licensee in designing his security arrangements and it does not sacrifice the effectiveness of protection arrangements.

The NRC agrees with the comment that shipment vehicles should be operated safely. However, the rule was not changed because the subject of safe driving is not within the scope of this physical protection rule change proceeding.

(23) *Road shipments: Escorts.* Some comments suggest that the regulation should be changed to always require an escort vehicle to accompany the shipment vehicle; other comments contend that an escort vehicle is undesirable because it increases the likelihood of an accident. Some comments are concerned that the duties assigned to drivers and escorts in the regulation and guidance would overwhelm the drivers and escorts for shipments longer than one day. One comment proposes that the NRC should license escorts and test them annually. Finally, some comments suggest that more than one escort might be needed for extended stopovers.

The Commission has decided that the current level of protection, which permits a single vehicle system to be used outside of heavily populated areas, is adequate. In addition, a second escort or other added safeguards measures are required for transiting urban areas. The Commission has also decided that the duties of the drivers and escorts are straight-forward; that the training program as revised (Appendix D of 10 CFR Part 73) is adequate. With respect to the size of the escort force, the regulation specifies the number, capabilites, and duties of personnel who are to be on duty at any one time; it is the obligation and responsibility of the licensee to provide a force size sufficient to provide for relief and rest periods.

(24) *Road shipments: Call-in schedule.* Some comments contend that the two-hour call-in schedule required by 10 CFR 73.37(b)(2) is not practicable; they argue that carrying out the requirements would violate DOT regulations by disturbing the co-driver's rest period on long trips. The comments suggest that an eight-hour call-in schedule would be more appropriate. Comments also point out that the two-hour call-in schedule (if carried our) would require extra stops for telephone calls, thereby making the shipment vulnerable to sabotage.

The two-hour call-in schedule has been reviewed with DOT. Representatives of DOT found nothing in the requirement that was unsafe for a lone driver to carry out while driving or that was in conflict with DOT regulations. Accordingly, the two-hour call-in requirement is allowed to stand. The Commission reaffirms its judgment that the benefits from two-hour call-ins justify the additional risk of those instances where the vehicle must be stopped and the call-in done by conventional telephone.

(25) *Road shipments: Citizens band (CB) radio.* Some comments suggest that there is no assurance that CB contacts can be made, and therefore the requirement for CB radio in the shipment vehicle is superfluous. Other comments note that the designated control location is not required to be equipped with a CB radio and ask that the NRC reconsider whether a potential saboteur could gain advantage from this situation.

A requirement for CB radio is included in recognition of the fact that CB radio offers an inexpensive back-up to the primary communication system.

It is true that there is no guarantee that a CB contact can be established in the event that there is a need to call for assistance. On the other hand, the adversary is faced with a back-up communications system that he can neither ignore nor readily defeat. The CB requirement is included because it, in some measure, reduces an adversary's likelihood of success. Also, CB radio is useful for communication among the escort vehicles and shipment vehicle and can be used in most heavily populated areas to contact the LLEA. However, because the transmission range of CB radio is short compared with the likely distance that shipments will be transported, there is no requirement for a CB radio to be installed in the control location.

(26) *Rail shipments: Special trains.* Some comments urge the use of special trains to transport spent fuel rail casks. These comments contend that special trains have the following advantages: The requirements of 10 CFR 73.37(c) are difficult for regular trains but can be handled readily by special trains. Special train speeds are lower and can be tailored to circumstances. Special trains are shorter than regular trains with the advantage that "burying" the shipment car under other cars in the event of an accident is less likely; this

feature, the comments argue, would be very significant in the event of a fire. A special train offers better observation of the shipment car. Most railroad accidents occur in rail yards and special trains spend less time in rail yards than do regular trains. Special trains have priority in use of track over regular trains. Regular trains could conceivably carry spent fuel together with other hazardous material, such as explosives or inflammables, in different cars of the same train; this situation would not occur with a special train.

Special routing is possible to avoid rail yards and heavily populated areas. Finally, the probability of certain classes of train accidents, such as brake failure or railroad crossing accidents, is lower because special trains are shorter than regular trains.

Other comments take the opposite view and suggest that the use of regular trains for spent fuel shipments is entirely satisfactory for the following reasons: The likelihood of hijacking a regular train from a low population to a high population area is remote in the extreme. Special trains have no particular advantage in avoiding high population areas. Special trains, as now proposed, would be stopped to yield right-of-way to regular trains.

NRC approval of alternative routes would provide adequate response to the uncertainties of weather, rail damage, and other uncontrollable influences.

A regular train in a rail yard would be under surveillance by the escort and the railroad police. Special trains have no advantage in communications; moreover, rail traffic controllers always know the approximate location of their trains.

Needed protection requirements for rail shipments can be met by regular trains. Accordingly, the suggestion that the regulations be modified to require the use of special trains was rejected.

(27) *Rail shipments: Arrangements with LLEA.* Some comments suggest that arrangements with LLEAs are needed only when a shipment car is stopped in a rail yard. This suggestion was not adopted because it would be inconsistent with the fundamental protection measure that an escort should always be present with a spent fuel shipment and that escort should be able to request and obtain assistance from the LLEA independent of the location of the shipment.

(28) *Rail shipments: Escorts.* Some comments contend that escorts are not needed when a train is moving. Other comments point out that more than one escort will be needed to provide surveillance during extended stopovers and that special lighting might be needed for effective surveillance. One comment points out that no existing spent fuel rail cask car provides for an escort within the car, as is implied by the guidance document and the regulation. Finally, some comments request that the NRC consider speed restrictions for spent fuel shipments and reconsider its decision not to require surveillance while the train is moving—particularly while the train is moving very slowly.

One of the fundamental protection measures is that an escort should always be present near the shipment, independent of the location of the train and independent of whether the train is moving. Accordingly, the suggestion that an escort is not needed while the train is moving was rejected.

One intent of the requirement is that a stopped shipment car always be under observation; it is the responsibility of the licensee to provide an escort force sufficiently large to meet that intent.

The object of the observation requirement is the early detection of circumstances that threaten deliberate damage to the shipment in a heavily populated area. Lighting in heavily populated areas is expected to be sufficient for this purpose.

With respect to the comment concerning the escort in the same rail car with the spent fuel cask, the guidance document was written so as not to preclude the escort from riding in a rail car containing a spent fuel cask. The staff had in mind a small cask in which slightly greater than exempted quantities of spent fuel might be shipped rather than a typical rail cask containing up to ten fuel assemblies.

The Commission has recognized the need for surveillance capabilities while trains are moving, and has reflected this in the regulation.

(29) *Rail shipments: Strengthening of requirements proposed.* One comment asserts that spent fuel shipments by road are inherently unsafe and that shipments should be made by rail. The comment contends that current capabilities for the safety and protection of rail shipments are inadequate and identifies numerous areas where he believes improvements are needed.

The Commission disagrees with the view that spent fuel shipments by road are inherently unsafe. The comment does not provide an adequate justification for the extreme measures proposed pertaining to rail shipments. The Commission has no new information to modify its current view that spent fuel shipments can be moved safely on the existing rail system. Accordingly, no changes were made to the regulation or the guidance as a result of this comment.

The following modifications to the rule have been coordinated with the Department of Transportation in accordance with the Memorandum of Understanding between NRC and DOT that was published in the **Federal Register** on July 2, 1979. The Department of Transportation has determined that the NRC rule is not in conflict with current DOT regulations.

These amendments to the interim final rule are being published in effective form subject to codification. In the **Federal Register** notice issuing the interim final rule (44 FR 34466), comments were requested on the rule even though it was published in effective form. It is those comments received that have led to the amendments being made here. It is as if comments had been received on a proposed rule. Accordingly, the Commission for good cause finds that further notice and public procedure is unnecessary.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 73, are published as a document subject to codification.

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45 FR 67645

Published 10/14/80

Effective 10/14/80

10 CFR Part 73

Physical Protection of Plants and Materials: Correction

AGENCY: Nuclear Regulatory Commission.

ACTION: Correction.

SUMMARY: In a final rule document published in the Federal Register July 24, 1979 (44 FR 43282), § 73.1(b) was revised. An error was made in the amendatory language resulting in the inadvertent deletion of § 73.1(b)(2), (3), (4), and (5). It was not the intent of the Commission to delete paragraphs (2), (3), (4) and (5) of § 73.1(b). This document corrects this error and republishes § 73.1(b) as it should appear including a revision made to § 73.1(b)(5) as published at 45 FR 37409 on June 3, 1980.

FOR FURTHER INFORMATION CONTACT: John D. Philips, Chief, Rules and Procedures Branch Division of Rules and Records, Office of Administration, Nuclear Regulatory Commission, Washington, DC 20555, (301) 492–7086.

45 FR 74693
Published 11/12/80
Effective 11/28/80

Licensing Requirements for the Storage of Spent Fuel in an Independent Fuel Spent Storage Installation

See Part 72 Statements of Consideration

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45 FR 79410
Published 12/1/80
Effective 12/1/80

10 CFR Part 73

Searches of Individuals at Power Reactor Facilities

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is extending its current relief from pat-down searches of regular employees at nuclear power reactors in order to accommodate a rulemaking proceeding concerning revisions to its rules in § 73.55 intended to finalize requirements for entry searches at such facilities.

EFFECTIVE DATE: December 1, 1980.

FOR FURTHER INFORMATION CONTACT: L. J. Evans, Jr., Chief, Regulatory Improvements Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 427–4181.

SUPPLEMENTARY INFORMATION: On July 31, 1979, the Commission changed the date from August 1, 1979, to November 1, 1979, when pat-down searches of regular employees of nuclear power plant licensees had to be implemented. The rationale for this extension was provided in the **Federal Register** notice on this subject, 44 FR 47758, August 15, 1979. The Commission further extended the implementation date to November 1, 1980. The rationale for that extension is contained in 44 FR 65969.

The Commission plans to issue proposed revisions to 10 CFR § 73.55(d)(1) to finalize requirements for personnel searches at protected area entry portals of power reactors. The extension of the relief from physical pat-down searches of regular employees contained herein is intended to allow sufficient time for public comment on the proposed search requirements and their implementation, if adopted. Because this rule delays a requirement, and merely continues a temporary situation for another limited period of time, the Commission finds that notice and public procedure are unnecessary and that the change can be made immediately effective without the customary 30 day period of notice required by 5 U.S.C. 553.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, the following Amendment to Title 10 Chapter 1, Code of Federal Regulations, Part 73 is published as a document subject to codification.

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45 FR 80271
Published 12/4/80

Licensing Requirements for the Storage of Spent Fuel in an Independent Spent Fuel Storage Installation; Correction

See Part 72 Statements of Consideration.

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45 FR 83195
Published 12/18/80
Effective 12/18/80

10 CFR Part 73

Physical Protection Upgrade Rule; Clarification of Effective Dates

AGENCY: Nuclear Regulatory Commission.

ACTION: Clarification of effective dates.

SUMMARY: The NRC issues this notice to clarify three dates concerning the development and implementation of plans required of nuclear power reactor licensees for the training and qualification of security personnel. Because of ambiguous effective date provisions in amendments to 10 CFR 73.55(b)(4), published November 28, 1979 (44 FR 68184), incorrect dates appeared in the January 1, 1980 revision of 10 CFR Chapter I. The text of § 73.55(b)(4) is published below in its entirety to clarify this ambiguity.

EFFECTIVE DATES: Thursday, December 18, 1980.

FOR FURTHER INFORMATION CONTACT: Mr. L. J. Evans, Jr., Chief, Regulatory Improvements Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301–427–4181, or Mr. F. P. Gillespie, Chief, Safeguards Standards Branch, Division of Siting, Health and Safeguards Standards, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, DC 20555, 301–443–5907.

SUPPLEMENTARY INFORMATION: The text of 10 CFR 73.55(b)(4) as corrected reads as follows:

§ 73.55 [Corrected]

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46 FR 2025
Published 1/8/81
Effective 1/8/81

10 CFR Part 73

Physical Protection of Plants and Materials; Clarifying and Corrective Amendments

AGENCY: Nuclear Regulatory Commission.

ACTION: Clarifying and corrective amendments.

SUMMARY: The Nuclear Regulatory Commission is issuing certain clarifying and correcting amendments that refer to documents incorporated by reference in Part 73, Physical Protection of Plants and Materials. These amendments do not modify current practices or application of the regulations.

EFFECTIVE DATE: January 8, 1981.

FOR FURTHER INFORMATION CONTACT: Patricia D. Anderson, (301) 492–7297.

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission is amending two sections of 10 CFR Part 73, "Physical Protection of Plants and Materials" to clarify the citations to materials incorporated by reference into two sections within Part 73.

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46 FR 4858
Published 1/19/81
Effective 4/6/81

10 CFR Part 73

Physical Protection of Plants and Materials: Reporting of Physical Security Events

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is amending its regulations to clarify existing requirements dealing with the reporting of events which significantly affect physical security effectiveness. Proposed amendments were published for comment in October 1979, and have been revised to take into consideration public comment. Instead of reporting within 1 hour as originally proposed, a range of reporting times up to 24 hours or the recording of an event in the licensees records would be allowed, depending on the severity of the event and compensatory measures taken.

Concurrently with the issuance of the final rule, the NRC staff is issuing a Regulatory Guide which provides a procedure that may be used to determine whether an event is reportable, including a partial list of typical events that a licensee should report. This guide was issued for comment along with the proposed regulation and has been revised to reflect both the changes made in the effective regulation and the comments received on the proposed guide.

EFFECTIVE DATE: April 6, 1981.

NOTE: The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for review of its reporting requirement under the Federal Reports Act, as amended, 44 U.S.C. 3512. The date on which the reporting requirement of the rule becomes effective, unless advised to the contrary, includes a 45-day period which that statute allows for Comptroller General review (44 U.S.C. 3512(c)(2)).

FOR FURTHER INFORMATION CONTACT: Mr. James Prell, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, DC 20555 (301-443-5903).

SUPPLEMENTARY INFORMATION: On October 22, 1979, the NRC published in the **Federal Register** (44 FR 60743) proposed amendments to 10 CFR Part 73 of its regulations concerning reporting of safeguards events. Interested persons were invited to submit written comments and suggestions in connection with the proposed amendments, within 60 days after publication in the **Federal Register**. Concurrently with the publication of the proposed amendments, the NRC issued for comment a guide which provides a procedure for implementing the regulations (Draft Regulatory Guide, Reporting of Safeguard Events, SG 901-4). After reviewing public comments on the regulation and the guide, the NRC has decided to make a number of changes to both documents.

Following is a summary of the substantive changes to the amendments. These changes were accompanied by appropriate changes to the guide.

1. *Reporting Times.* Several comments suggest that a clearer distinction be made between serious and less serious types of events, and that reporting times be made commensurate with the severity of the event. The NRC agrees with this suggestion and has developed criteria for classifying event severity and the associated reporting times. The [illegible] makes a distinction between events which must be reported by phone within 1 hour and those that must be reported within 24 hours. Events which must be reported within 1 hour are those that involve an explicit threat or a major loss of physical security effectiveness. Events that must be reported within 24 hours are those involving a potential threat or a moderate loss of physical security effectiveness. Reporting of a major loss of physical security effectiveness can be delayed for 24 hours if: (a) compensatory measures specified in an approved security or contingency plan have been taken, or (b) within ten minutes of that event's occurrence, compensatory measures are implemented that provide a level of security equivalent to that existing prior to the event. Similarly, a moderate loss of physical security effectiveness event need not be reported if equivalent compensatory measures have been implemented. Every event must be entered into the licensee's records. Events that have been defined in a licensee's approved security or contingency plan as not being reportable need not be reported to the NRC.

2. *Compensating Measures.* Several comments suggest that when, following an event, compensating measures are placed into force that provide a level of security equivalent to that existing prior to the event, it need not be reported to the NRC but merely recorded in the licensee's records. This suggestion has been adopted for a moderate loss of physical security event. However, for a compensated major loss of physical security effectiveness event, a report must be made within 24 hours instead of 1 hour. Even though measures have been taken to compensate for this type of event, a report is required because the NRC needs to be informed of the cause of such an event and the action taken to correct it.

3. *Distinction in Reporting Requirements Between High and Low Enriched Uranium.* One comment suggests that reporting requirements for events involving formula quantities of strategic special nuclear material should be different from those involving moderate and low strategic significance material. The basis cited for this suggestion is the considerable differences in their respective physical security requirements, as specified in §§ 73.25, 73.26, 73.45, 73.46 versus 73.67. The NRC agrees with this comment with regard to the loss of physical security effectiveness type events. Accordingly, events pertaining to material of moderate strategic significance, which must meet the safeguard requirements of Section 73.67 paragraphs (d) and (e), have been placed in the moderate loss of physical security effectiveness category, while events pertaining to material of low strategic significance, which must meet the safeguard requirements of Section 73.67 paragraphs (f) and (g), do not have to be reported. However, explicit or potential threats concerning all types of material covered by safeguards regulations must be reported.

4. *Material Control and Accounting.* Some comments suggest that material control and accounting reporting requirements are adequately addressed by existing regulations. The NRC has reevaluated the need for the reporting of events involving material control and accounting and agrees with these comments.

5. *More Definite Description of Authorized Individual.* Some comments suggested there are many "authorized individuals" at fuel cycle facilities who could feel bound to report the same event. The commenters proposed that a responsible individual be more specifically identified. The NRC disagrees with this suggestion. The Commission is not concerned with who reports the security event, but rather that the event be reported within the required time frame beginning at the moment of discovery by a member of the security organization or any other employee of the licensee. The requirement has been changed to better reflect this concern.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 73, are published as a document subject to codification.

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46 FR 12696
Published 2/18/81
Effective 3/20/81

10 CFR Part 73

Physical Protection of Plants and Materials; Physical Protection of In-Transit Special Nuclear Material of Moderate Strategic Significance

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to allow the NRC to delay the shipment of certain quantities of special nuclear material of moderate strategic significance. The intent of the NRC is to prevent the concurrent shipment of two or more quantities of SNM of moderate strategic significance that, in total, would exceed a formula quantity. This amendment will help the NRC prevent the loss or theft of a formula quantity of strategic special nuclear material.

EFFECTIVE DATE: March 20, 1981.

FOR FURTHER INFORMATION CONTACT: Mr. C. K. Nulsen, Regulatory Improvements Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 427–4181.

SUPPLEMENTARY INFORMATION: The Commission has been concerned that possible theft of concurrent shipments of special nuclear material (SNM) of moderate strategic significance could result in the accumulation by an adversary of a formula quantity of strategic special nuclear material (SSNM). On January 14, 1980, the Nuclear Regulatory Commission (NRC) published in the **Federal Register** [45 FR 2657] proposed amendments to 10 CFR Part 73 to allow the NRC to delay the shipment of certain quantities of SNM of moderate strategic significance. The purpose of these amendments was to (1) help assure that a formula quantity of SSNM could not be lost or stolen while in transit, and (2) provide the NRC with the capability of preventing the loss of additional material to an adversary before an accounting of a lost shipment has been made. On February 21, 1980, these amendments were republished [45 FR 11503] with additional details provided explaining how the scheduling control for preventing concurrent shipments of two or more quantities of SNM of moderate strategic significance totalling more than a formula quantity will be implemented. The comment period was also extended until March 24, 1980.

The proposed amendments have been adopted in effective form without significant changes, and will become effective 30 days after publication of this notice. The changes which were made in response to public comments were primarily for the purpose of clarification and are consistent with the intent of the Commission at the time of publication of the proposed amendments. A summary of public comments resulting in changes in the regulation, and a description of the resulting changes follows.

(1) One comment suggested that shipments which are physically protected should not be subject to NRC-imposed delays. This suggestion has been adopted by the addition of a new subparagraph, § 73.67(e)(6)(iv), which provides that shipments of SNM of moderate strategic significance protected in accordance with the provisions of §§ 73.20, 73.25 and 73.26 will neither be subject to NRC orders to delay shipment nor considered to constitute a portion of an aggregate formula quantity of SSNM for the purpose of determining whether any shipments must be delayed. This additional provision is to achieve consistency with the related provisions of § 73.24(b) which are currently effective.

(2) Some comments indicated a concern that NRC ordered shipment delays would increase shipping costs and cause interference in the shipper/carrier relationship to the detriment of shippers. The two-day notice the NRC might provide to shippers was thought to be too late to cancel a vehicle ordered for pickup of material without incurring extra charges. Also, it was thought that failures on the part of nonlicensees (e.g., overseas recipients, the Department of Energy) to provide timely confirmation of receipt of shipments could cause unfair impacts on licensees who had planned subsequent shipments. Commenters also expressed more general concerns about the possible impact of the proposed amendments on the private nuclear sector.

The Commission is sensitive to possible disruptions that could be caused to licensees as a result of the proposed regulations. Most of the potential delays which might occur could be avoided if notification is given the NRC sufficiently in advance of each planned shipment. The staff intends to request shipment delays as soon as the need for delays becomes apparent based upon the receipt of planned shipment notifications in accordance with § 73.72. These decisions will usually be made after consultation with the prospective shippers so that NRC-ordered shipment delays can be minimized and the needs of the shippers can be accommodated. These actions taken in the context of the low number of shipments which are projected will occur each year (twenty to thirty) should result in no significant economic impacts.

With regard to potential delays caused by difficulties in obtaining confirmation of receipt for export shipments, the proposed amendments have been changed by adding the stipulation that for export shipments the licensee need only confirm that a particular export shipment has left its scheduled port of exit from the United States intact, rather than requiring that receipt be confirmed at its foreign destination. This provision is consistent with the objective of the existing regulation which is to assure that an aggregate formula quantity of SSNM constituted by several shipments of SNM of moderate strategic significance not be permitted to be transported within the United States without appropriate physical protection.

(3) One comment suggested that the NRC did not intend to include low-enriched uranium in the requirements for notifying the NRC of shipments of SNM of moderate strategic significance, and that the language of § 73.72 should be changed accordingly. The NRC did not intend that shipments of SNM of moderate strategic significance containing no SSNM be included in the notification requirements of § 73.72, or that such shipments should be subject to delays pursuant to the proposed amendments. Therefore, the suggestion has been adopted and § 73.72 has been modified accordingly.

With respect to the proposed amendments, the resolution of the comments received not resulting in changes is as follows:

(1) A comment by the Department of Energy (DOE) recommended that the proposed amendments be limited to delaying licensed shipments involving the commingling of five kilograms or more of SSNM in transport vehicles or storage facilities. The DOE stated that addressing aggregate quantities of special nuclear material of moderate strategic significance in all possible combinations of licensed shipments is not justified. Concern was also expressed that the proposed amendments would still permit commingling of DOE Category III shipments with licensed shipments such that the total would amount to a formula quantity, thus defeating the purpose of the proposed amendments.

The authority given the staff to delay shipments of SNM of moderate strategic significance is intended to be exercised on a case-by-case basis to the extent necessary to assure protection of the public health and safety and common defense and security. This will allow the staff to eliminate all significant opportunities for thefts of formula quantities of SSNM.

Regarding DOE's concern for commingling of shipments, carriers are required under the terms of a general license, issued pursuant to § 70.20(a), to provide protection for formula quantities of SSNM in their possession, regardless of whether such material was intended to be transported as one or more separate shipments. Thus, carriers are obligated to protect a formula quantity of SSNM if an NRC licensed Category II shipment is commingled with a DOE

Category III shipment and the total amount of SSNM exceeds a formula quantity.

(2) Another comment suggested that the decision criteria for delaying shipments should be part of the regulation and that consideration should be given to giving priority for advanced scheduled shipments of required deliveries to operating reactors.

In response to the above comment, the staff has decided to enlarge upon the list of decision criteria last published in the **Federal Register** with the proposed amendments.

According to the revised criteria, staff decisions to delay shipments of special nuclear material will be based upon the following criteria: (1) Total time needed to complete the shipment, (2) the impact of a schedule delay on the use of the SNM at the delivery site, (3) expected routing, (4) relationship of the material to the national defense or to other essential programs in the nation's interest, (5) whether a licensee might volunteer to delay shipment, (6) the possible impacts on the shipper/carrier relationship with regard to availability of shipment vehicles and other special arrangements which would be difficult to rearrange, and (7) how far in advance of the proposed shipment date the NRC was notified of the intent to make the shipment. Regulatory Guide 5.59 entitled "Standard Format and Content for a Licensee Physical Security Plan for the Protection of Special Nuclear Material of Moderate or Low Strategic Significance," will be modified accordingly to reflect these criteria and the proposed amendments.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 73, are published as a document subject to codification.

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46 FR 51718
Published 10/22/81
Effective 10/22/81 for Sections 2.744(e), 2.790(d)(1), 73.2(jj) and (ll), and 73.21(a), (b) and (c)(1). All remaining sections will be effective on 1/20/82.

10 CFR Parts 2, 50, 70, and 73

Protection of Unclassified Safeguards Information

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to require NRC licensees and other persons to protect unclassified safeguards information against unauthorized disclosure. The rule establishes requirements and sets forth conditions to be applied by NRC licensees and other persons for the protection of unclassified Safeguards Information for operating power reactors, spent fuel shipments, and activities involving formula quantities of strategic special nuclear material.

EFFECTIVE DATE: October 22, 1981 for §§ 2.744(e), 2.790(d)(1), 73.2 (jj) and (ll), and 73.21 (a), (b) and (c)(1). All remaining sections will be effective on January 20, 1982.

FOR FURTHER INFORMATION CONTACT: Mr. Donald J. Kasun, Physical Security Licensing Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Phone 301-427-4010.

SUPPLEMENTARY INFORMATION:

Background

On December 29, 1980, the Nuclear Regulatory Commission published for comment a proposed rule that would prohibit the unauthorized disclosure of certain safeguards information by NRC licensees or other persons (45 FR 85459). The proposed rule was published in response to the provisions of a new section 147, SAFEGUARDS INFORMATION of the Atomic Energy Act, as amended. Public comment on the proposed rule was received from forty-five groups and organizations as follows:

Power Reactor Licensees	19
Fuel cycle licensees	6
Nuclear service companies	7
States	5
Law firms	3
Associations	2
Other government agencies	2
Private citizens	1

There were no comments received from public interest groups or organizations.

Extensive revisions have been made to the rule as a result of the comments received. The most significant revisions include:

Excluding from the scope of the rule activities involving less than a formula quantity of strategic special nuclear material (except for spent fuel shipments).

Deleting limit of error of inventory difference (LEID) information from the rule.

Adding guard qualification and training plans as items considered to be Safeguards Information (those portions that disclose facility safeguards features).

Deeming information protection systems used by State and local police force adequate to meet regulatory requirements.

Rephrasing § 2.790(d)(1).

Not requiring the marking of documents more than one year old stored by licensee contractors. Such documents would be marked if and when taken from storage for use.

A. *Discussion of Comments Resulting in Changes to Proposed Rule*

(1) *Reduction in the Scope of Application*—A number of commenters suggested that physical protection information for facilities that possess only special nuclear material of low strategic significance (Category III) be deleted from the rule considering the small potential hazard of such materials. Commenters also suggested that this type of information when in the hands of the NRC be withheld from public disclosure as commercially valuable (proprietary) information.

The Commission agrees with both points. The original determination of scope was based on the assumption that appropriate information pertinent to all facilities and special nuclear materials required to be protected under 10 CFR Part 73 should be included in the proposed rule. Upon further review the Commission has concluded that applicability should be more closely related to the "significant adverse effect on the health and safety" standard contained in Section 147 of the Atomic Energy Act, as amended. Accordingly, the scope of the rule has been reduced to apply only to those facilities, nuclear materials, or transport activities for which there exists significant potential for harm to the public health and safety if the nuclear materials or facilities involved are intentionally misused or damaged. Therefore, Safeguards Information is limited to information regarding the physical protection of:

All activities involving formula quantities of strategic special nuclear material, both irradiated and unirradiated (most of the physical protection information for activities involving a formula quantity of *unirradiated* strategic special nuclear material would be classified as National Security Information under 10 CFR Part 95).

Operating power reactors, and

Spent fuel shipments (but not routes and quantities).

This separation is generally consistent with the overall NRC Policy of graded safeguards. The activities that remain under the rule (with certain minor exceptions such as non-power reactors) require protection by armed guards, whereas the activities deleted do not. Appropriate paragraphs of § 73.21 have been modified to reflect this scope change. In regard to the second point, the Commission has determined generically that information concerning a licensee's or applicant's material control and accounting or physical security program for special nuclear material, not otherwise covered by specific statutory exemptions, is commercial or financial information for purposes of Freedom of Information Act (5 U.S.C. 552) (FOIA) requests. In order to reduce both the licensee's and the Commission's administrative burden associated with licensees applying for a withholding determination for each item of such information submitted to the NRC under 10 CFR 2.790(b)(1). 10 CFR 2.790(d)(1) has been amended to deem such information confidential commercial information under exemption (4) of the FOIA. This continues in effect present procedures for such information.

Nine commenters supported the retention and/or expansion of § 2.790(d)(1) as an appropriate method for withholding material control and accounting and physical security information not considered to be Safeguards Information. There were no comments to the contrary.

(2) *Deletion of Limit of Error of Inventory Difference (LEID) Information*—A large number of commenters recommended the deletion of LEID information for low enriched uranium fabrication facilities on the basis that this information would not be very valuable to a diverter attempting to steal material within the limits of a statistical alarm threshold.

The Commission agrees and LEID information has been deleted from the rule (LEID information for activities involving formula quantities of strategic special nuclear material would still be classified under Part 95).

(3) *Addition of Guard Qualification and Training Plans to the Rule*—Ten comments were received on this matter, the most for any item. Commenters stated that guard qualification and training plans contained, among other things, site specific response procedures and descriptions of facility safeguards features. A review of several such plans received by the NRC disclosed that while some plans were so general that they could not be considered Safeguards Information, others contained specific information that should be protected. The rule has been amended to include those *portions* of guard qualification and training plans that disclose site specific features of the physical protection system.

(4) *Grandfathering*—Comments pointed out that certain organizations (e.g. architect/engineering firms) may have very large quantities of old documents that qualify as Safeguards Information but are rarely removed from storage. They suggested that this information be exempted or at least given special consideration. The Commission agrees with this suggestion in part and has amended the rule to require marking of documents more than one year old only when they are removed from storage. Storage, protection and access requirements however, would still apply. Documents containing Safeguards Information located at the operating facility would have to be marked regardless of age.

(5) *"As Built" Drawings*—Some commenters suggested that all revisions of drawings, not just the final, be considered as Safeguards Information. Other commenters suggested that preliminary design and construction drawings be specifically excluded from the rule. The Commission believes there is some merit in both suggestions. Accordingly, the rule has been changed to indicate that any drawing or document that substantially represents the final design of the physical security system would have to be protected. This change eliminates the need to control much of the initial information, such as requests for bids, but still requires protection of documents that are only slightly different from the final version.

(6) *Vital Area Identification and Location*—Several commenters noted that the proposed rule might be interpreted as requiring protection of information already in public documents, such as in the FSAR, specifically in regard to drawings that show locations of safety related equipment. The rule was therefore revised to indicate that only drawings or documents that explicitly identify items of safety-related equipment as vital for purposes of physical protection are required to be protected. (Note that the content of Appendix E has now been incorporated into the text of the rule at paragraph § 73.21(b).) Other than as above, engineering and construction drawings that show the locations of safety-related equipment are not considered Safeguards Information.

(7) *Acceptability of Present Protection Systems*—Several commenters suggested that specific physical protection requirements not be included in the existing rule but that licensee or State standard procedures be accepted instead. The Commission has concluded, based on frequent NRC staff contacts, that State and local police forces protect information in a way that is equivalent to the rule requirements. Accordingly, the rule has been revised to deem State and local police information protection procedures acceptable. In regard to NRC licensees that fall into the scope of the rule, the Commission has concluded that without formal requirements there would be no assurance of uniformity, consistency or an adequate level of protection across the industry. As evidenced by the comments received, there is considerable divergence of opinion as to what constitutes a minimum acceptable level.

(8) *Other Minor Changes*—Based primarily on comments received, additional rule changes have been made to:

Permit Safeguards Information to be transported by any individual authorized access under the rule.

Show that matter other than documents may contain Safeguards Information.

Allow use of ADP systems by contractors of licensees.

Indicate that non-security related orders and procedures for guards need not be protected.

Limit off-site communication information that needs to be protected to communications used for security purposes.

Show that portions of any correspondence that contains Safeguards Information would have to be protected.

Remove from the rule and place in guidance documents many of the detailed requirements relative to marking, transmission, and destruction of documents that contain Safeguards Information.

Note in § 2.744(e) the applicability of criminal sanctions, as well as civil penalties, for violations of Board orders pertaining to Safeguards Information.

B. *Discussion of Comments Not Accepted By the Commission*

(1) *Protection During Agency Proceedings*—The adequacy of proposed 10 CFR 2.744(e) was questioned by law firm commenters representing licensees. The amendment as proposed would confirm a presiding officer's authority to issue appropriate protective orders whenever protected Safeguards Information is required in an adjudicatory hearing. The amendment was seen by the Commission as the minimum restriction needed to protect the health and safety of the public or the common defense and security in the context of adjudicatory hearings pursuant to section 147a of the Atomic Energy Act of 1954, as amended (the Act), and to impose the minimum impairment of procedural rights, as required by section 181 of the Act. The amendment makes it clear that the physical protective measures and need to know standards of proposed § 73.21 would apply to Safeguards Information in adjudicatory hearings.

First, the commenters note correctly, but as a shortcoming, that § 2.744(e) applies only to agency records and not to Safeguards Information possessed only by an applicant, licensee, or contractor. A second objection was that the proposed § 2.774(e) gives relatively weak authority to the licensing boards to prevent disclosure by intervenors and their lawyers. The commenter asserted that some showing of reliability should be required of such persons before Safeguards Information is disclosed. Third, the commenters stated that the proposed regulation gives inadequate guidance to the licensing boards on the kind of protection intervenors should be required to give to Safeguards Information. The commenters suggest that the restrictions used in the Diablo Canyon case be adopted. See *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant Units 1 and 2) ALAB–600, 12 NRC 3 (1980). Finally, the commenters suggest that the possibility of criminal sanctions, as well as of civil penalties, be noted for violations of Board orders pertaining to Safeguards Information.

In response to these comments the Commission has made one change to proposed § 2.744(e). That change notes the applicability of criminal sanctions by stating, for the purpose of section 223 of the Act, that any order issued pursuant to § 2.744(e) with respect to Safeguards Information be considered an order issued pursuant to section 161b. of the AE Act. This is in accord with section 147b. of the Act.

The Commission believes the other comments should not be adopted. It was not the intention of the Commission to place any restrictions on discovery by intervenors, or to write any special rules chilling intervenors' rights, such as a screening requirement not applicable to all parties. Not only would such rules be discriminatory, but also would be contrary to sections 181 and 147a of the Act. This Commission cannot presume beforehand that intervenors and their counsel are any-the-less trustworthy than the staff or applicant and their counsel.

The minimum protection required for Safeguards Information is stated in proposed § 73.21. The requirements there apply to intervenors and their counsel as well as to the applicant or licensee. Section 2.744(e) allows a Board to go further, if, in its judgment after hearing all relevant arguments, the circumstances warrant it. This Commission needless to say, has confidence in the ability of its Boards to exercise sound judgment in the exercise of their discretion under § 2.744(e), and therefore at this time declines to write any special rules for the guidance of the Boards as to the extra measures they may require for the protection of Safeguards Information in adjudicatory hearings.

With respect to the protective measures used by the Boards in the Diablo Canyon case and their potential general applicability, the Commission notes that those conditions are involved in a review of the Diablo Canyon hearing by an Atomic Safety and Licensing Appeal Board. The Appeal Panel has informed the Commission that it would like to make some suggestions regarding the handling of Safeguards Information in adjudicatory hearings but feels constrained not to do so until the Diablo Canyon adjudication is finished. The Commission believes that the suggestions of the Appeal Panel will be most useful in determining if restrictions on intervenor's rights of discovery of Safeguards Information should be inserted into the agency's rules as the commenters request.

For this reason also, the Commission will defer to a later time the decision whether it should stipulate any further guidance or rules for how the licensing boards should write protective orders to protect Safeguards Information. At this time the Commission believes that its opinion and those of the Boards provide adequate guidance. See, *Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI 80–24, 11 NRC 775 (1980), ALAB 410, 5 NRC 1398, (1977); ALAB 580, 11 NRC 227 (1980); ALAB 592, 11 NRC 744 (1980); and ALAB 600, 12 NRC 3 (1980).

One commenter also took the position that proposed § 2.744(e) did not provide adequate protection against undesirable disclosure of physical security plans for nuclear power plants. In his view a protective order and affidavit of nondisclosure would not eliminate the risk of unauthorized disclosure by intervenors who had an ulterior motive of securing the plans for use in sabotaging the plant. This commenter recommended (i) inclusion of rules of decision based upon *Diablo Canyon* for presiding officers to apply in hearings, and (ii) security clearances or a screening program for persons with access to Safeguards Information in hearings, in order to assure trustworthiness and reliability Both of these recommendations have been discussed above and rejected. In addition, the Commission does not propose to write rules affecting rights of intervenors in adjudicatory hearings based upon a suspicion of ulterior motives in intervening. To do so would be tantamount to writing rules based upon speculation rather than on fact and law. The hearing process already contains screens to separate the genuine intervenor from the spurious. The intervenor must validate both his standing under judicial rules and the merit of his contentions. He is a known and readily identifiable person who openly participates at considerable expense. Intervenors generally make no effort to conceal their opposition to nuclear power, but this does not supply an adequate basis to consider them as potential co-conspirators in plots to sabotage operating power reactors.

In contrast to the above, a third commenter stated that proposed § 2.744(e) was potentially too restrictive of intervenors' rights in that it gave too much authority to the presiding officer. The commenter suggested modification of proposed § 2.744(e) to allow disclosure of Safeguards Information to a party upon a showing by the party of reasonable necessity for disclosure. 10 CFR 2.744(e) as drafted requires a finding by the presiding officer that disclosure is necessary to a proper decision. The presiding officer, as usual, will exercise a rule of reason in applying the standard. The language used accomplishes the same result and is generally consistent with the terminology in § 2.744.

(2) *Trustworthiness Determinations*—A number of commenters disagreed with the absence of a personnel clearance or screening program as a necessary condition for access to Safeguards Information, noting that the traditional requirements for access to sensitive information include both "need-to-know" and trustworthiness determinations. One commenter suggested that persons having access be subjected to the screening program which the Commission has directed be established for power reactor personnel. Another commenter suggested that individuals be required to show sufficient evidence of trustworthiness before being granted access.

The Commission's position on this matter has not changed. In the first place, Section 147 of the Atomic Energy Act contains no provisions regarding trustworthiness determinations on which to base a federal personnel security program (as is set forth in Section 145 for access to Restricted Data). Secondly, the Commission does not believe that there is any reasonable regulatory framework that can be used to establish a licensee administered screening program, considering the wide distribution afforded some Safeguards Information. While the power reactor access authorization program mentioned by one commenter might be used for "clearing" licensee employees and other persons granted unescorted access to the reactor facility, it would not be applicable to engineering firm employees who are never on the site (but who in some cases have total access to the physical protection system design information). Thirdly, the Commission believes that the proper administration of the need-to-know requirement combined with the rule's occupational restrictions will provide an effective information protection program and still satisfy the "minimum restrictions" provisions of section 147a of the Act.

(3) *Unrestricted Use of Telecommunications*—Several commenters suggested that the restrictions on the use of telephone circuits for transmission of Safeguards Information be deleted. Various reasons were given for this change. One commenter stated that the rule would prevent the licensee from calling for help in a safeguards emergency. This is not so since the regulations make an exception for extraordinary or emergency circumstances. Another commenter contended that the resources needed to intercept unsecured communications exceeded the technical capabilities of the design basis threat. The Commission disagrees with this position and believes that relatively little skill is needed to tap phone lines or eavesdrop on radio conversations. A third commenter noted that the telephone is normally used to transmit shipping information and it would be burdensome to use another method. In this regard, the only shipments covered by the final rule are spent fuel and formula quantities of strategic special nuclear material. (Category I.)

Notifications regarding spent fuel shipments are required to be by mail (See 10 CFR 73.72) except that reporting schedule changes are permitted to be made by phone in the form of time deviations from the original schedule. Information regarding Category I shipments is classified National Security Information under Part 95 and use of unsecured telephone for such information is prohibited.

Another commenter stated that the rule conflicts with the requirements of § 73.71 regarding the telephonic reporting of physical security events. The events for which reporting is required are considered to be extraordinary conditions in themselves and therefore exempt from the restrictions. An explicit statement was added to the rule in this regard. The Commission, after careful consideration, concluded that the restrictions on the use of unsecured telecommunication circuits needs to be retained in the rule to assure that Safeguards Information is not lost or compromised *without the knowledge of the person responsible for its protection.* There is no indication that these restrictions will unduly burden the licensee or the NRC staff during routine licensing matter or transport activities. For example, periodic call-ins required during shipments can be made using prearranged signals or an operating code.

(4) *Restrictions on Use of ADP Systems*—Commenters stated that the meaning of an "ADP system" was not clear, that facilities without on-site capabilities would be excessively burdened, and that the restrictions should be removed. The Commission disagrees noting that the problem regarding unauthorized access to Safeguards Information stored in ADP systems is more severe than with telephone usage. ADP systems located at engineering firms may have in memory large amounts of information on the design of a physical security system. Without restrictions, access to such information potentially could be gained by anyone, authorized or not, who is familiar with the operation and has access to a terminal. Remote terminals could provide an especially easy and unobtrusive means for obtaining selected Safeguards Information. Access to unprotected data lines between facilities could also be used to compromise a physical security system.

(5) *Physical Protection Requirements*—Several commenters stated that the storage requirements were too restrictive. Suggested alternatives (to locked security storage containers) included storage in desks, file cabinets, locked rooms, undesignated or non-GSA approved storage repositories, or anywhere in a controlled access or protected area. The Commission does not agree with the suggested alternatives. The basic objective of the security container is to make more difficult *undiscovered* compromise of Safeguards Information. A steel filing cabinet secured with a locking bar and a GSA approved combination lock, or a GSA approved security container both satisfy this objective. On the other hand, locked file cabinets, desks, and ordinary doors can be entered with little difficulty and without leaving any indication that compromise has occurred. The objection to storing anywhere in a controlled access or protected area is based on the free access this would allow to anyone in these areas. However, the rule has been changed to delete the requirement that the security storage container be in a *locked* room when inside a controlled access or protected area.

Other commenters objected to the requirement for control of Safeguards Information by an individual while in use within a controlled access or protected area. The Commission agrees that some relaxation is warranted on this matter; however, the basic requirement has been left in the rule and guidance has been provided to indicate that under certain conditions the general control exercised over controlled access and protected areas would satisfy the requirement.

One commenter noted that the requirements to keep Safeguards Information in locked security containers would have an adverse impact on the availability of the security force to respond to a threat or a safeguards incident. The Commission does not agree. Documents located within alarm stations and guard houses need not be in locked security containers since they are under direct control of security personnel. Similarly, guard orders and procedures may be posted at access control points provided that the post is continuously manned and the information is located so as to prevent observation by visitors.

(6) *Addition of Other Types of Information*—Several commenters disagreed with the deletion of generic safeguards studies and reports (such as the Sandia Laboratories' *Handbooks on Barrier Technology and Entry Control Systems)* from the scope of the rule and noted that no justification was given for the omission. On this matter the Commission notes that the original legislative proposal prepared by the NRC, and interim versions of the legislation, contained explicit language regarding the protection of "studies, reports, and analyses ——— which concern the safeguarding of nuclear materials or facilities."[1] This provision was deleted from the final version of section 147. In view of this deliberate action by the Congress, the Commission has no choice but to delete these items from the rule.

One commenter suggested that information developed during the course of probabilistic risk assessments be protected under this rule. The Commission, while agreeing that such information might have value to a potential saboteur, has concluded that on balance the public interest is better served if all safety-related studies are available for scrutiny. The question also arises concerning the legality of withholding information under Section 147 that is neither related to a licensee's physical protection program nor produced in response to security considerations.

(7) *Deletions of Certain Types of Information*—One commenter suggested that it would be unlawful to include information regarding off-site response forces, shipment schedules and locations of safehavens in that these items are not "security measures" as set forth in section 147. The Commission disagrees on this point. NRC regulations require licensees to make arrangements with State or local police forces for response to safeguards emergencies. For fixed sites these arrangements are documented and become part of the facility physical security plan. For transport of spent fuel and Category I

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[1] Congressional Record—House, H 11334, November 29, 1979.

quantities of highly enriched uranium and plutonium, route surveys are conducted by the NRC staff in order to determine what police response could be expected in an emergency, the location of safe havens, and zones of weak-radio-telephone communications. The information gathered is documented and transmitted to the licensee for inclusion in his physical protection plan. In this regard, the U.S. District Court for the District of Columbia has recently upheld the Commission's position that police response capabilities and telephone shortcomings are legitimate items for withholding under section 147 of the Act.[8]

Another commenter stated that it might be impossible to prevent disclosure of certain information regarding local police forces. The Commission agrees in part and the rule has been modified to more accurately reflect the original intent that only details of the forces *committed to respond* to a facility safeguards emergency need be protected.

(8) *Withholding Spent Fuel Route Information*—Two commenters recommended that routes used for spent fuel shipments be withheld until the shipments have been completed. This is not a matter for Commission deliberation. Section 147 contains an explicit statement that "Nothing in this Act shall authorize the Commission to prohibit the public disclosure of information pertaining to the routes and quantities of shipments of——irradiated nuclear reactor fuel."

(9) *Limit Regulations to Parts 2 and 9*—One commenter suggested that the licensed industry be allowed to devise its own methods of protection, that specific requirements be deleted from Part 73, and that Parts 2 and 9 contain directives that Safeguards Information be protected. As is stated elsewhere, the Commission believes that without formal requirements (which are considered to be the minimum restrictions that provide an acceptable level of protection) there would be no assurance of uniformity or consistency. Comments received indicate there is no general agreement in the licensed industry concerning what constitutes a minimum level of protection.

(10) *Other Comments*—Following is a list of other comments on minor matters that were not incorporated into the final rule on the basis of no demonstratable need or benefit:

Show that the licensees are not responsible for compliance by other persons that receive Safeguards Information.

Require records to be kept for any Safeguards Information transmitted off-site.

Require that a list be kept of persons who have a need-to-know.

Note that distribution, reproduction, and destruction of Safeguards Information need not be documented.

Include a document exclusion list in the rule.

Add attorneys to the occupation list contained in § 73.21(c); (not necessary in that attorneys are already included in (c) (i) and (vi)).

Amend the definition of Safeguards Information to add "controlled" before Safeguards Information.

Add a definition for "composite plan."

Limit withholding of information on security system weaknesses to those items severe in nature.

(11) *Comments Regarding Guidance*—A number of comments were received regarding guidance needed to implement the rule. The specific items mentioned by commenters were taken into consideration during the development of the guidance document.

(12) *Cost*—Several commenters stated that the estimated costs for implementing the rule were too low, particularly in regards to storage during the construction phase, protection at licensee contractor facilities, and recurring labor. The Commission has revised its estimates as follows. (A value-impact analyses is available in the Public Document Room.)

Initial costs	Recurring (annual)
Licensees and Nuclear Service Companies (245 Locations)	
$4,000 per location (avg) × 245 locations. Total $966,500	$2,200 per location (avg) × 245 locations Total $531,000
State Governments (40 States)	
Total $24,000	Total $126,000

(13) *Public Announcement*—One commenter noted that some firms who may have Safeguards Information are not part of an information network that would inform them of the existence of this new rule. The Commission agrees that special effort is needed regarding public dissemination of the rule. In addition to the normal practice of publication in the Federal Register and distribution of NRC public announcements the Commission intends to (i) encourage licensees to notify their contractors, suppliers, and local police response forces, (ii) send out a special mailing to nuclear service firms that do business with power reactor licensees, and (iii) invite certain associations to notify their members.

C. *Petition for Rulemaking*

On June 7, 1977, the Northern States Power Company and Wisconsin Electric Power Company petitioned the Nuclear Regulatory Commission to amend 10 CFR 50.34(c) so as to include plant security information within the definition of Restricted Data, or alternatively within the definition of National Security Information, to amend 10 CFR 2.905 so as to assure that discovery of plant security information is subject to the protections of Subpart I to 10 CFR Part 2, to amend Subpart I to 10 CFR Part 2 to explicitly recognize that its protections extend to information not under Commission control, and to delete 10 CFR 2.790(d)(1). The Commission's decision on the petition, in light of the issuance of this rule, will be set forth in a separate Federal Register Notice.

D. *Effective Dates*

The Commission has decided to make §§ 2.744(e), 2.790(d)(1), 73.2(jj) and (ll), and 73.21(a), (b) and (c)(1) effective immediately for good cause pursuant to the exception provided by 5 U.S.C. 553(d)(3). The enumerated sections define the scope of Safeguards Information protected by the rules, identify those persons who are permitted access, set forth certain protections afforded by the Commission to such information, and provide certain protections for physical protection and material control and accounting information not otherwise designated as Safeguards Information or classified as National Security Information or Restricted Data. These sections alone impose no new requirements on licensees or other persons outside the agency.

Immediate effectiveness of these sections is warranted to avoid further delay in implementing the Congressional intent in enacting Section 147 of the Atomic Energy Act to provide protection from public disclosure for certain specified types of Safeguards Information. Since the rule also codifies current Commission procedure as to what types of information are protected, immediate effectiveness of those provisions will not adversely affect Commission licensees or others in possession of Safeguards Information.

The remaining provisions of the rule will be effective on January 20, 1981.

E. *Paperwork Reduction Statement*

There are no reporting or recordkeeping requirements contained in this regulation and therefore it is not subject to Office of Management and Budget clearance as required by Pub. L. 96–511.

The promulgation of these amendments would not result in any activity that affects the environment. Accordingly, the Commission has determined under the National Environmental Quality guidelines and the criteria of 10 CFR 51.5(d) that neither an environmental impact statement nor environmental impact appraisal to support a negative declaration for the proposed amendments to Title 10 is required.

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[8] *Virginia Sunshine Alliance vs NRC*, Civil Action No. 80–2009, February 26, 1981 (Presently under appeal.)

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 2, 50, 70, and 73, are published as a document subject to codification.

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47 FR 600
Published 1/6/82
Effective 7/6/82

10 CFR Part 73

Advance Notification to Governors Concerning Shipments of Irradiated Reactor Fuel

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Commission is amending its regulations to implement a federal statute which requires the NRC to promulgate regulations regarding notification to state governors of the transport of spent fuel through a state. This notification will provide the governor advance information, not otherwise available to the governor, related to spent fuel transportation in his state. Shipment of certain other forms of nuclear waste is covered under a separate amendment to the Commission's regulation 10 CFR Part 71. Separate amendments are needed because information regarding spent fuel shipments contains sensitive safeguards data which must be protected. The information pertaining to the other waste shipments is not sensitive.

EFFECTIVE DATE: July 6, 1982.

ADDRESS: The comments received may be examined at the NRC Public Document Room at 1717 H Street, NW, Washington D.C.

FOR FURTHER INFORMATION CONTACT: Tom R. Allen, Regulatory Improvements Branch, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Telephone: 301–427–4181).

SUPPLEMENTARY INFORMATION:

Background

Section 301(a) of Pub. L. 96–295 states: "The Nuclear Regulatory Commission, within 90 days of enactment of this Act, shall promulgate regulations providing for timely notification to the Governor of any State prior to the transport of nuclear waste, including spent nuclear fuel, to, through, or across the boundaries of such State. Such notification requirements shall not apply to nuclear waste in such quantities and of such types as the Commission specifically determines do not pose a potentially significant hazard to the health and safety of the public."

On December 9, 1980, the NRC published a **Federal Register** notice (45 FR 81060) inviting public comments on a proposed rule providing for advance notification to governors of states of the transportation of spent fuel. The 90-day comment period expired March 9, 1981. Copies of the proposed rule, with a request for comments, were also sent to state governors. The final rule is essentially the same as the proposed rule except that it has been modified to permit notification of a governor's designee (rather than the governor).

The Rule

The amendment to 10 CFR Part 73 will require licensees to supply the following information: the name, address, and telephone number of the shipper, carrier and receiver of the shipment, a description of the material to be transported, point of origin, estimated date and time of departure, estimated date and time of arrival at state boundaries, and a description of the shipment route to be used within the state. This information would be provided by mail, postmarked at least seven days or delivered by messenger at least four days in advance of the estimated date of departure, to the offices of the governors (or governors' designees) of affected states. Any person receiving schedule information would be required to protect it against unauthorized disclosure. The information protection measures are set forth in § 73.21 of 10 CFR Part 73 and are the subject of a separate rulemaking notice (46 FR 51718, October 22, 1981). Schedule information would be downgraded a short time after completion of the shipment, so that protection need not be continued. The state official would be renotified in the event of schedule changes in excess of six hours.

The Comments

NRC received 60 letters containing more than 300 comments on the proposed rule. Comments were received from these entities as follows:

	Commenters
State governors or state agencies	24
Individuals from public sector	23
Nuclear industry	9
Federal agencies	3
City mayor	1
Total	60

Some of these comments resulted in minor changes to the rule or in changes in the way the NRC will administer the rule. These comments relate to three general groupings.

The first such group of comments resulted in modification of the rule. A number of comments requested that the regulation be modified to require advance notifications be sent to a state official designated by the governor, rather than being sent to the governor himself. The Commission has decided that notification of a governor's designee has significant information handling and information protection advantages. Accordingly, the final rule has been modified to provide for notification of a governor's designee.

One comment requested that the advance notification information include the telephone number of the shipper and receiver. This suggestion is being adopted because during times of emergencies it would allow quick access to additional technical information about a shipment at insignificant additional cost. For completeness, the rule modification has been expanded to include the telephone number of the carrier.

A final comment requested that the regulation make clear that renotification can be done routinely by telephone. Paragraph § 73.37(f)(4) in the regulation has been modified to make this point clear.

In addition to the revisions resulting from public comment revisions were also made to simplify the information protection provisions of § 73.37(f)(3) and to clarify that they apply to intrastate shipments as well as to interstate shipments.

The second such group of comments made suggestions that were adopted but did not result in modification of the rule. Rather, these suggestions will be carried out by the NRC in the administration of the rule.

One comment in this group stressed the importance of a governor's right to decline to receive notifications and suggested that the regulations make this right explicit, while opposing comments insisted that a governor should not be given the option of declining to receive the notifications. The Commission continues to believe that in view of the information protection requirements of

§ 73.21, a governor should have the option to decline to receive advance notification information relevant to spent fuel shipments. If requested by a governor, the NRC will remove that governor's name from the list of governors to be notified.

One of these comments suggested that the notification should be made to a single contact within each state, and that localities within the state that need the information would obtain it from that contact. Another suggested that the NRC should make available to licensees a list of the responsible persons in each state to be notified in the event of a change of schedule. The Commission has decided that it is consistent with the intent of Congress that notifications should be made to a single designated individual within each state who is to receive notifications and renotifications. The NRC will make available a list of these individuals.

One comment requested that the list of governors to receive advance notifications should include the executives of certain Pacific Island territories and the U.S. Secretary of Interior (for shipments that would stop over at these Pacific Island territories). This suggestion is consistent with the language of the statute, which includes territories as states. The list of governors will be so modified.

One comment requested that a standardized advance notification form be used. The NRC adopted the suggestion and will issue a suggested format as a guidance document.

The Commission also received comments which were evaluated but not adopted. Some of these were in the form of suggestions, while others provided information for consideration. Some dealt with matters beyond the scope of this regulatory action or with matters beyond the authority of the Commission. These comments are discussed below:

1. *Scope of the Rule.* Several comments made suggestions concerned with the scope of the rule. These suggestions were rejected because they would modify the scope of the rule in ways that are inconsistent with NRC understanding of law or inconsistent with the aims of this particular rulemaking.

a. *Application to other than NRC licensees or to non-radioactive materials.* One comment suggested that the rule should apply to all transporters of radioactive fuel, rather than being limited to NRC licensees. Another comment expressed concern that the rule would be unjustifiably extended to include vast numbers of shipments of nonradioactive waste. These comments were rejected because the NRC has no authority to apply the rule to persons other than NRC licensees.

b. *Promulgation of the rule by DOT, rather than NRC.* One comment contended that the DOT, rather than the NRC, should promulgate the rule. However, since Congress specifically directed the NRC to issue the rule, DOT has not undertaken the promulgation of such a rule.

c. *Emergency response and other state actions.* Some comments requested that the NRC identify state actions needed for optimum utilization of the information and provide more information on emergency response. Apart from information protection rules, which was required by Pub. L. 96–295, the NRC does not regulate state use of advance notification information. Accordingly, it would be inappropriate to incorporate advice concerning state use of notification information in a regulation. Although emergency response by states is a timely and important subject, these issues are already being addressed outside this rulemaking action, and therefore do not require further discussion here. As the Commission noted on April 13, 1981 in its withdrawal of advance notice of rulemaking (46 FR 21619):

> In another separate action, the NRC in cooperation with the Federal Emergency Management Agency and other federal agencies is currently developing guidance material to be used by state agencies in developing emergency response plans for transportation accidents involving radioactive material.

d. *State and local authority.* A group of comments pointed out differences between the proposed rule and existing state laws and asked whether the rule would preempt the existing state laws. In that regard, local regulations that call for the advance disclosure of spent fuel shipment schedule information could be affected by new NRC requirements for the protection of such schedule information. In accordance with a separate rulemaking, NRC licensees as well as any other person who has advance schedule information will be prohibited from furnishing it to any local official other than a member of a local enforcement authority that is responsible for responding to requests for assistance during safeguards emergencies (see § 73.21(c) in 46 FR 51718, October 22, 1981). It should be noted that the protection provisions of § 73.21(c) do not apply to any of the other information provided to governors or the designees in accordance with this regulation.

Other comments requested that the rule provide for advance notification of citizens along spent fuel shipment routes. The NRC has not adopted this suggestion because it is beyond the scope of Pub. L. 96–295, and because a local official could obtain such information from his state governor's office as appropriate.

e. *Routing.* Some comments suggested that the rule require that shipments be routed on interstate highways and that the NRC consult with state police before approving a route. The issue of whether to route shipments only on interstates is outside the scope of the advance notification rule. Routing of spent fuel shipments is covered in 10 CFR 73.37 and in DOT regulation 49 CFR 173 and 177. However, it should be noted that the NRC encourages the use of interstate highways and, routinely consults with state police before approving a route.

2. *Impacts.* Some comments contended that the rule was unsupported and would be burdensome and ineffective. Congress has decided that, rather than being burdensome and ineffective, advance notification to states is beneficial because it enables states to contribute to the security, safety, and ease of transport of shipments. Therefore, Congress directed the NRC to issue requirements for its licensees to carry out advance notification.

3. *Administrative.* Comments in this group generally requested clarification of how various details of the rule would be interpreted and administered or set forth alternatives to the measures proposed. The specific comments are discussed below.

a. *Waterborne and airborne shipments.* One comment asked how the rule will apply to waterborne and airborne shipments. Notifications for waterborne shipments would be given as for highway shipments. There are no airborne shipments of spent fuel.

b. *Shipper-carrier division of responsibility.* Some comments asked whether the shipper or the carrier is intended to be responsible for notification under various conditions. Generally two licensees, a shipper and a carrier, are involved in each spent fuel shipment. Both are responsible for physical protection, including advance notification. As a practical matter, division of responsibility for carrying out the physical protection requirements is a subject of agreement between the shipper and the carrier.

c. *Series shipments.* One comment requested clarification concerning the way in which series of shipments are related with respect to protection of schedule information. Shipments in a series are related in the sense that knowledge of the schedule details of one shipment in the series could aid in predicting the schedule of subsequent shipments in the series. For this reason, schedule information protection is required until after the last shipment in a series is completed.

d. *Documentation to demonstrate compliance.* One comment asked what documentation a licensee must maintain to demonstrate compliance with the regulation. The Commission has decided that maintenance of a recordkeeping system by licensees is not required at this time. For its inspection the NRC will rely on a sampling process wherein NRC records concerning the details of notification will be checked against state records for the same shipment.

e. *Notification lead times.* Some comments inquired about the basis for the proposed lead times for notifications, suggested various alternative lead times, and asked whether there are circumstances under which a shipment could be made with less than four days advance notification. The notification lead times are selected to offer a reasonable compromise between the needs for (1) timely advance notification, (2) avoidance of unnecessarily long periods for protection of schedule information, and (3) avoidance of unnecessary numbers of renotifications stemming from schedule changes. NRC regulations in 10 CFR Part 73 provide for the granting of exceptions to the provisions of Part 73, including the provision for four-day notification lead time, but there must be good cause for the exception to be granted.

f. *Confirmation of receipt of notification.* One comment suggested that, prior to entering a state with a shipment, licensees obtain confirmation from the state that notification has been received. The suggestion was not adopted because it could lead to significant delays of shipments en route and thereby weaken safeguards of the shipments.

g. *Use of registered or certified mail.* One comment suggested that notifications be sent only by certified or registered mail to ensure delivery. The suggestion was not adopted because NRC analysis showed insignificant benefit.

h. *Clearinghouse for notifications.* One comment suggested that the NRC establish a Federal clearinghouse or other centralized unit to transmit notifications to states. The suggestion was not adopted because it is not necessary to the notification process, it would be costly, and it could cause notification delays.

i. *Notification through mutual agreement.* One comment suggested that notifications be carried out through mutual agreement between licensee and state, rather than having the details specified by the NRC in a regulation. The suggestion was rejected because notifications would likely be nonuniform from state to state and would be difficult for the NRC to enforce.

j. *Schedule tolerance.* Several comments suggested various alternatives to the proposed ± 6 hours tolerance be considered. The ± 6 hour tolerance was retained because it appears to be a reasonable compromise between (1) the need for carriers to be allowed to have significant flexibility in schedules for long distance shipments and (2) the need for schedule accuracy in order to assure that states have the opportunity to contribute to the security and safety of transport of shipments.

k. *Relevant state law.* Some comments contended that the NRC should have evaluated all of the relevant advance notification rules now in force in several of the states. The NRC staff reviewed a number but not all of the state advance notification laws and consulted with representatives of some states that have operational advance notification laws. Some provisions of the proposed rule were adopted from state laws.

l. *General rather than specific notifications.* Some comments suggested that states need only general information (routes, number of shipments using that route, typical quantity of material in a shipment, etc.) rather than shipment specific information. The suggestion was rejected because states will have a greater range of alternatives to contribute to the security, safety, and ease of transport of spent fuel shipments if the notifications are in advance and are shipment specific.

4. *Information protection.* Numerous comments were concerned with the information protection provisions in the proposed rule, under which shipment schedule information would be required to be protected.

Concerns surrounding the basis for protection of information, and the ways in which such information should be handled, are addressed in a separate rulemaking (see 10 CFR 73.21, 46 FR 51718, October 22, 1981).

After careful consideration of these comments, the Commission has adopted the amendment in final form.

Environmental Impact Statement

In accordance with 10 CFR 51.5(d)(3), an environmental impact statement, negative declaration, or environmental impact appraisal need not be prepared in connection with this rulemaking action because the amendments are nonsubstantive and insignificant from the standpoint of environmental impact.

Paperwork Statement

The Nuclear Regulatory Commission has submitted this rule to the Office of Management and Budget for such review as may be appropriate under the Paperwork Reduction Act, Pub. L. 96-511. The SF-83, "Request for Clearance," Supporting Statement, and other related documentation submitted to OMB have been placed in the NRC Public Document Room at 1717 H Street, NW., Washington, D.C. 20555 for inspection and copying for a fee.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, Section 301 of Pub. L. 96-295 (94 Stat. 789-790), and sections 552 and 553 of title 5 of the United States Code, the following amendments to 10 CFR Part 73 are published as a document subject to codification.

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47 FR 11511
Published 3/17/82
Effective 4/16/82

10 CFR Part 73

Reporting of Physical Security Events

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations regarding notification requirements for reporting significant physical security events to conform with the proposed requirements for the reporting of significant events contained in § 50.72. This change will require that licensees of nuclear power plants and fuel fabrication facilities, who have access to the system, notify the NRC Operations Center via the Emergency Notification System (ENS), rather than the Regional Office, of a reportable physical security event. This document also corrects an omission in a previously published rule.

EFFECTIVE DATE: April 16, 1982.

FOR FURTHER INFORMATION CONTACT: Kristina Z. Markulis, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (301-433-5976).

SUPPLEMENTARY INFORMATION: In 1979, the Commission's concern about the lack of effective and timely communication between licensees and the NRC regarding unusual events at operating reactor facilities prompted a rulemaking action leading to a final rule (10 CFR 50.72, "Notification of Significant Events") being published in the Federal Register on February 29, 1980 (45 FR 13435). One requirement of the rule is that operators of nuclear power reactors notify the NRC Operations Center, via the Emergency Notification System, of reportable physical security events as set forth in 10 CFR 73.71. The Commission is amending the notification requirements of § 73.71 to be consistent with the proposed requirements in § 50.72.

On January 19, 1981, the Commission published amendments to 10 CFR 73.71 (45 FR 4858) as a final rule which clarified existing reporting requirements and included a Table, "Reporting of Physical Security Events." An omission was made in Footnote 2 of the Table which is now being corrected to include nuclear power plant licensees (§ 73.55). Correcting the clarifying footnote to add a reference to § 73.55 does not change the content of the rule which covers all general and specific licenses.

Appendix A of 10 CFR Part 73 is being updated to include the Regional Federal Telecommunications (FTS) numbers, a change of address for Region V, and an explanatory footnote. The commercial telephone number for the NRC Operations Center is also being added to the Appendix for licensees who do not have access to the notification system, or in the event that the Emergency Notification System is inoperative.

Since these amendments are of a minor and nonsubstantive nature, a notice of proposed rulemaking is unnecessary and good cause exists to make the amendments effective April 16, 1982.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 73, are published as a document subject to codification.

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47 FR 19112
Published 5/4/82.
Effective 6/3/82

10 CFR Part 73

Physical Protection of In Transit Special Nuclear Material of Moderate Strategic Significance

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its physical protection regulations for special nuclear material of moderate strategic significance to improve licensee safeguards capabilities for early detection of the possible theft of this material while it is in transit. These improvements include (1) maintaining the material under lock or under the control of a responsible individual, (2) confirming the status of shipments while en route, and (3) employment of either dedicated use transports or signature acknowledgement of custody of shipments. The intent of these amendments is to assure close monitoring of shipments of special nuclear material of moderate strategic significance in order to achieve early detection of loss or theft of the material so that repeated thefts can be prevented.

EFFECTIVE DATE: June 3, 1982.

FOR FURTHER INFORMATION CONTACT: Mr. C. K. Nulsen, Material Transfer SG Licensing Branch, Division of Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 427–4181.

SUPPLEMENTARY INFORMATION: The Commission has been concerned that possible multiple thefts of special nuclear material (SNM) of moderate strategic significance could result in the accumulation by an adversary of more strategically significant quantities of special nuclear material. To help prevent this, current physical protection requirements for SNM of moderate strategic significance were designed to help provide early detection of an initial theft of this material. Early detection would allow the Commission to take further actions to assure that additional thefts could be prevented before the lost or stolen material was accounted for. On June 15, 1981, the Commission published proposed amendments in the **Federal Register** (46 FR 31267) to require additional physical protection for intransit SNM of moderate strategic significance. These amendments were to improve the licensee's capabilities for early detection of possible thefts of the material by requiring (1) the material be maintained under lock or under the control of a responsible individual, (2) periodic communications between the licensee and the transport vehicle, and (3) employment of exclusive use vehicles or signature acknowledgement of all custody transfers. A sixty-day comment period expired on August 15, 1981. Comments were received from eight respondents.

The proposed amendments have been modified in response to the comments received, and will be published in final form, as modified, to become effective 30 days after publication of this notice. Changes were made in response to the public comments to better reflect services which can be provided by common carrier(s), and also to provide clarification where necessary. A summary of the public comments and, where appropriate, a description of the changes that resulted from them follows:

(1) *Need for these amendments.* All but one of the commenters questioned the need for additional physical protection requirements for the affected shipments. They suggested that current requirements allowing the NRC to order delays in these shipments to keep formula quantities of SSNM from being in transit at the same time would be unnecessarily redundant with additional physical protection requirements for individual shipments.

The final amendments complement existing regulations which allow the NRC to order shipment delays for safeguards purposes. They provide for closer licensee control over shipments and better traceability so that the chances of having to delay a shipment will be decreased. With regard to the comment concerning those shipments of low enriched uranium covered by these amendments, it was decided to exclude low enriched uranium of moderate strategic significance from the requirements (1) to maintain the material under lock or under the control of a responsible individual and (2) to use an exclusive use vehicle or signature acknowledgement of all custody transfers. Low enriched uranium shipments, however, will be required to meet the remaining physical protection regulations for material of moderate strategic significance. The exclusion of low enriched uranium from the additional requirements of this amendment was made after considering the primary intent of the additional requirements to provide early detection in time to prevent the theft of a formula quantity of strategic special nuclear material, which consists of only high enriched uranium and plutonium.

(2) *Locking requirements.* The proposed amendments would have required the material to be transported in a locked cargo compartment, and during road shipments, to be kept under lock while in transit or in temporary storage en route. Many commenters noted that these locking requirements would be impossible to comply with in the case of less-than-truckload (LTL) shipments and most air shipments, the modes primarily used in past shipments. The loading and unloading of other cargo, it was stated, precludes maintaining the material continuously under lock. Also, most aircraft do not have lockable cargo compartments. It was also stated that storage of the material in a locked area was not always feasible for import and export shipments.

It was anticipated by commenters that some carriers might refuse to carry the material if the proposed amendments became effective, and that less-than-truckload shipments would be effectively eliminated. Commenters also questioned whether the purpose of the proposed locking requirements was to prevent rather than detect theft.

The final amendments permit an alternative to the lock requirements. This alternative provides for maintaining the material under the control of a responsible individual where the use of locks is not practicable. Under this alternative, the shipment should be kept under continuous observation or be checked periodically by a responsible individual to assure its continued integrity. Periodic checking of the shipment could be facilitated by inspecting the seals required on NRC-approved shipping containers, or by use of an appropriate seal placed on the cargo compartment or temporary storage areas containing the shipment. The responsible individual also should assure the correct routing of the shipment, and should assure that the licensee or its designee is notified immediately if the material is determined to be missing. The responsible individual in each case will be required to be an individual who has acknowledged by signature acceptance of custody of the material.

For air shipments these requirements could be satisfied by requesting the signature security service provided by air carriers. This service provides routing control, surveillance and periodic checking of shipments. For road shipments, common carriers of less-than-truckload quantities should be able to provide service consistent with these requirements under special arrangements, and at a cost less than what would be charged for an exclusive use vehicle. A revised regulatory guide will be published to reflect these changes, which will describe in further detail the appropriate means for complying with the requirements for maintaining control of the shipments.

(3) *Exclusive use vehicles.* Some commenters questioned the use of the term "exclusive use vehicle." It was claimed that prohibiting other cargo from being transported in the same vehicle with a shipment of SNM of moderate strategic significance would not necessarily affect the security of the shipment and thus is unjustified. The term "exclusive use vehicle" was used in the proposed amendments in reference to a type of service routinely offered in the motor freight industry. In order to avoid confusion, the term "exclusive use vehicle" does not appear in the final amendments. More descriptive language focusing only on the security aspects of these shipments has been substituted.

One commenter also suggested that the requirement for exclusive use vehicles goes beyond the stated objective of the proposed rule. Although use of an exclusive use vehicle itself would not prevent the theft of this material, it would not appear to be inconsistent with assuring early detection of a possible theft. Also, it should be noted that the final amendments permit the use of alternative means for satisfying this objective.

(4) *Communications.* Some commenters considered the proposed requirement for periodic communications between the shipper, receiver, or their designee, and the transport vehicle to be unnecessary since they supplement existing requirements for tracing lost or unaccounted for shipments and notifying authorities. It also was suggested that communications more often than every several hours would slow shipments, greatly increase operating costs, and effectively eliminate less-than-truckload shipments. Conversely, however, one commenter endorsed the proposed periodic communications requirement and suggested exclusive use vehicles be used, equipped with satellite-based navigation receivers and transmitters.

Some commenters questioned specifically whether communications would be required during periods when the shipment was in temporary storage, and whether the requirement was intended to apply to all modes or only to road shipments. With regard to the periodic communications requirement, the objective of early detection could be achieved by periodic reports from the carrier on the shipment's status relative to a predetermined itinerary. Several airfreight and motor freight carriers who have previously handled shipments of special nuclear material are known to provide the appropriate tracing services at no additional cost. Computerized data bases maintained by some of the motor freight carriers are generally updated every 10 to 14 hours, and more frequently in the case of air shipments.

Concerning the use of a satellite communications system, as suggested by one commenter, this could conceivably satisfy the proposed communications requirements but it would not be appropriate for the Commission to require a particular system design or type of hardware in preference to other acceptable alternatives.

(5) *Cost effectiveness.* Some commenters stated that the proposed amendments would result in cost increases that would have a significant impact on the operations of nonpower reactor facilities which must financially justify their existence even though they might be subsidiaries of much larger companies or institutions. Generally, these statements appear to have been based on the premise that the proposed amendments would force licensees to utilize exclusive use vehicles for road portions of shipment in preference to less-than-truckload shipments.

As stated earlier, the additional physical protection measures included in the proposed amendments were not intended to force licensees to utilize exclusive use vehicles for road shipments. Based upon information developed in staff inquiries, the modifications to the proposed amendments will make it possible for licensees to satisfy the additional physical protection requirements for shipments of SNM of moderate strategic significance while continuing to employ common carriers provided they can make special arrangements for the required services. This should be possible to arrange at a cost significantly less than if an exclusive use vehicle were required. Thus the Commission has determined that the additional physical protection measures are cost effective in balancing the additional protection provided against the additional cost.

Paperwork Reduction Act Statement

The Nuclear Regulatory Commission has submitted this rule to the Office of Management and Budget for such review as may be appropriate under the Paperwork Reduction Act, Pub. L. 96–511. The SF–83, "Request for Clearance," Supporting Statement, and other related documentation submitted to OMB have been placed in the Public Document

Room at 1717 H St., NW., Washington, D.C. 20555 for inspection and copying for a fee. The application requirements contained in this regulation have been approved by the Office of Management and Budget; OMB approval No. 3150–0002 (expires May 31, 1983).

Regulatory Flexibility Statement

In accordance wih the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission hereby certifies that this rule, if promulgated, will not have a significant economic impact on a substantial number of small entities. This proposed rule would amend 10 CFR Part 73 to require certain improvements in the capabilities of physical protection systems provided by licensees to protect against the theft or loss of special nuclear material of moderate strategic significance while this material is in transit. These improvements would increase the cost of shipment of this material in absolute terms, but the total costs of transportation would generally remain less than one percent of the value of the material shipped. In addition, the number of shipments expected to be made annually is quite low, estimated to be about thirty shipments per year based upon past experience in the nuclear industry. The licensees who could be affected by these amendents number approximately 37 possessing special nuclear material of moderate strategic significance, 27 of which operate nonpower reactors. In addition to these 37 licensees, there are about six licensees possessing formula quantities of strategic special nuclear material who may occasionally choose to ship their material in less than formula quantities. All the licensees potentially affected are either large private or state universities, large corporations, each employing in excess of 500 persons having annual sales or revenues in excess of $1 million, or state or Federal agencies. Less than ten of the affected licensees are small colleges or businesses that fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or the Small Business Size Standards in regulations issued by the Small Business Administration at 13 CFR Part 21.

List of Subjects in 10 CFR Part 73

Hazardous materials—transportation, Nuclear materials, Nuclear plants and reactors, Penalty, Reporting requirements, and Security measures.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and section 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 73, are published as a document subject to codification.

47 FR 41336
Published 9/20/82
Effective 9/20/82

Minor Clarifying Amendments

See Part 1 Statements of Consideration

47 FR 57446
Published 12/27/82
Effective dates:
10 CFR 20.311 of Part 20 effective date is 12/27/83; 10 CFR Part 61 and all other changes effective 1/26/83.

Licensing Requirements for Land Disposal of Radioactive Waste

See Part 61 Statements of Consideration

48 FR 38604
Published 8/25/83
Effective 8/22/83

Minor Clarifying Amendments

See Part 20 Statements of Consideration

48 FR 44172
Published 9/28/83
Effective 9/12/83

Commercial Telephone Number Change; Region III Office

See Part 20 Statements of Consideration

49 FR 19623
Published 5/9/84
Effective 5/9/84

Information Collection Requirements; Display of OMB Control Numbers

See Part 0 Statements of Consideration

49 FR 47823
Published 12/7/84
Effective 12/7/84

Minor Correcting Amendments

See Part 1 Statements of Consideration

≫**50 FR 12221**
Published 3/28/85
Effective date will be published at a later date.

Implementation of the Convention on Physical Protection of Nuclear Material

See Part 40 Statements of Consideration

PART 74

MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL

Subpart A—General Provisions

Sec.
74.1 Purpose.
74.2 Scope.
74.4 Definitions.
74.5 Interpretations.
74.6 Communications.
74.7 Specific exemptions.
74.8 Information collection requirements: OMB approval.

Subpart B—General Reporting

74.11 Reports of loss or theft or attempted theft of special nuclear material.
74.13 Material status reports.
74.15 Nuclear material transfer reports.

Subpart C—Special Nuclear Material of Low Strategic Significance

74.31 Nuclear material control and accounting for special nuclear material of low strategic significance.

Subpart D—Special Nuclear Material of Moderate Strategic Significance

74.41 [Reserved]

Subpart E—Formula Quantities of Strategic Special Nuclear Material

74.51 [Reserved]

Subpart F—Enforcement

74.81 Inspections.
74.82 Tests.
74.83 Violations.

Authority: Secs. 53, 57, 161, 182, 183, 68 Stat. 930, 932, 948, 953, 954, as amended, sec. 234, 83 Stat. 444, as amended (42 U.S.C. 2073, 2077, 2201, 2232, 2233, 2282); secs. 202, 206, 88 Stat. 1244, 1246 (42 U.S.C. 5842, 5846).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273), §§ 74.31, 74.81, and 74.82 are issued under secs. 161b and 161i, 68 Stat. 948, 949, as amended (42 U.S.C. 2201(b), 2201(i)); and §§ 74.11, 74.13, and 74.15 are issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

50 FR 7575

Subpart A—General Provisions

§ 74.1 Purpose.

(a) This part has been established to contain the requirements of the control and accounting of special nuclear material at fixed sites and for documenting the transfer of special nuclear material. General reporting requirements as well as specific requirements for certain licensees possessing special nuclear material of low strategic significance are included. The specific control and accounting requirements for other licensees are contained in §§ 70.51, 70.57, and 70.58 of this chapter.

(b) The general conditions and procedures for the submittal of a license application for the activities covered in this part are detailed in § 70.22 of this chapter.

§ 74.2 Scope.

(a) The general requirements of this part apply to each person licensed pursuant to Part 70 or 72 of this chapter, who possesses special nuclear material in a quantity greater than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof: or who transfers or receives a quantity of special nuclear material of 1 gram or more of contained uranium-235, uranium-233, or plutonium.

(b) In addition, specific control and accounting requirements are included for certain licensees who possess and use special nuclear material of low strategic significance.

50 FR 7575

(c) Specific control and accounting requirements for special nuclear material of moderate strategic significance, formula quantities of strategic special nuclear material, and miscellaneous categories of licensees who possess special nuclear material of low strategic significance are contained in §§ 70.51, 70.57, and 70.58 of this chapter.

§ 74.4 Definitions.

As used in this part:

Act means the Atomic Energy Act of 1954 (68 Stat. 919), including any amendments thereto.

Active inventory means the sum of additions to inventory, beginning inventory, ending inventory, and removals from inventory, after all common terms have been excluded. Common terms are any material values which appear in the active inventory calculation more than once and come from the same measurement.

Commission means the Nuclear Regulatory Commission or its duly authorized representatives.

DOE means the U.S. Department of Energy or its duly authorized representatives.

Effective kilograms of special nuclear material means:

(1) For plutonium and uranium-233 their weight in kilograms;

(2) For uranium with an enrichment in the isotope U^{235} of 0.01 (1 percent) and above, its element weight in kilograms multiplied by the square of its enrichment expressed as a decimal weight fraction; and

(3) For uranium with an enrichment in the isotope U^{235} below 0.01 (1 percent), its element weight in kilograms multiplied by 0.0001.

Formula quantity means strategic special nuclear material in any combination in a quantity of 5,000 grams or more computed by the formula, grams = (grams contained U^{235}) + 2.5 (grams U^{233} + grams plutonium).

Government agency means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America, which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

50 FR 7575

High enriched uranium means uranium enriched to 20 percent or greater in the isotope uranium-235.

Inventory difference (ID) means the quantity obtained by subtracting ending inventory (EI) and removals (R) from beginning inventory (BI) and additions to inventory (A). Mathematically,

$$ID = BI + A - EI - R.$$

ID is sometimes also referred to as "material unaccounted for" (MUF) in this chapter.

Low enriched uranium means uranium enriched below 20 percent in the isotope uranium-235.

Measurement includes sampling and means the determination of mass, volume, quantity, composition or other property of a material where such determinations are used for special nuclear material control and accounting purposes.

Measurement system means all of the apparatus, equipment, instruments and procedures used in performing a measurement.

Person means:

(1) Any individual, corporation, partnership, firm, association trust, estate, public or private institution, group, Government agency other than the Commission or the Department of Energy, except that the Department of Energy shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Gommission pursuant to section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244), any state or any political subdivision of or any political entity within a state, any foreign government or nation or political subdivision of any such government or nation, or other entity; and

(2) Any legal successor, representative, agent, or agency of the foregoing.

Physical inventory means determination on a measured basis of the quantity of special nuclear material on hand at a given time. The methods of physical inventory and associated measurements will vary depending on the material to be inventoried and the process involved.

50 FR 7575

Source material means source material as defined in section 11z. of the Act and in the regulations contained in Part 40 of this chapter.

Special nuclear material means:

(1) Plutonium, uranium-233, uranium enriched in the isotope U^{233} or in the isotope U^{235}, and any other material which the Commission, pursuant to the provisions of section 51 of the Atomic Energy Act of 1954, as amended, determines to be special nuclear material, but does not include source material; or

(2) Any material artificially enriched by any of the foregoing, but does not include source material.

Special nuclear material of low strategic significance means:

(1) Less than an amount of special nuclear material of moderate strategic significance, but more than 15 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope) or 15 grams of uranium-233 or 15 grams of plutonium or the combination of 15 grams when computed by the equation, grams = grams contained U^{235} + grams plutonium + grams U^{233}; or

(2) Less than 10,000 grams but more than 1,000 grams of uranium-235 (contained in uranium enriched to 10 percent or more, but less than 20 percent in the U^{235} isotope); or

(3) 10,000 grams or more of uranium-235 contained in uranium enriched above natural, but less than 10 percent in the U^{235} isotope.

Special nuclear material of moderate strategic significance means:

(1) Less than a formula quantity of strategic special nuclear material but more than 1,000 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope) or more than 500 grams of uranium-233 or plutonium or in a combined quantity of more than 1,000 grams when computed by the equation, grams = (grams contained U^{235}) + 2 (grams U^{233} + grams plutonium); or

(2) 10,000 grams or more or uranium-235 (contained in uranium enriched to 10 percent or more but less than 20 percent in the U^{235} isotope).

Strategic special nuclear material means uranium-235 (contained in uranium enriched to 20 percent or more in the U^{235} isotope), uranium-233, or plutonium.

§ 74.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretations of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized as binding on the Commission.

50 FR 7575

§ 74.6 Communications.

Any communication or report concerning the regulations in this part and any application filed under these regulations may be submitted to the Commission as follows:

(a) By mail addressed to—Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

(b) By delivery in person to the Commission offices at—

(1) 1717 H Street NW., Washington, DC; or

(2) 7915 Eastern Avenue, Willste Building, Silver Spring, MD.

§ 74.7 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security, and are otherwise in the public interest.

§ 74.8 Information collection requirements: OMB approval.

(a) The Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under Control No. 3150–0123.

(b) The approved information collection requirements contained in this part appear in §§ 74.11, 74.13(b) and 74.31 (b), (c), and (d).

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In § 74.15, DOE/NRC Form–741 is approved under Control No. 3150–0003.

(2) In § 74.13, DOE/NRC Form–742 is approved under Control No. 3150–0004.

(3) In § 74.13, DOE/NRC Form–742C is approved under Control No. 3150–0058.

Subpart B—General Reporting

§ 74.11 Reports of loss or theft or attempted theft of special nuclear material.

Each licensee who possesses 1 gram or more of contained uranium-235, uranium-233, or plutonium shall report immediately to the appropriate NRC Regional Office listed in Appendix A of Part 73 of this chapter by telephone and telegraph, mailgram, or facsimile any loss or theft or other unlawful diversion of special nuclear material which it is licensed to possess, or any incident in which an attempt has been made or is believed to have been made to commit a theft or unlawful diversion of special nulcear material in accordance with the procedures in § 73.71 of this chapter. This requirement does not pertain to measured discards or inventory difference quantities.

50 FR 7575

§ 74.13 Material status reports.

(a) (1) Each licensee who is authorized to possess at any one time and location special nuclear material in a quantity totaling more than 350 grams of contained uranium-235, uranium-233, or plutonium, or any combination thereof, shall complete and submit to the Commission (on DOE/NRC Form–742, Material Balance Report) material balance reports concerning special nuclear material received, produced, possessed, transferred, consumed, disposed of, or lost by the licensee. The licensee also shall prepare (on DOE/NRC Form–742C, Physical Inventory Listing) a statement of the composition of the ending inventory, which shall be submitted to the Commission as an attachment to each material balance report. All such reports shall be made as of March 31 and September 30 of each year and filed within thirty (30) days after the end of the period covered by the report. The Commission may permit a licensee to submit such reports at other times when good cause is shown. In preparing and submitting the reports described in this paragraph, the licensee shall comply with the printed instructions for completing the particular form.

(2) Any licensee who is required to submit routine material status reports pursuant to § 75.35 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit such reports only as provided in that section (instead of as provided in paragraph (a)(1) of this section).

(b) Each licensee subject to the requirements of § 70.51(e) of this chapter shall submit a report, in accordance with paragraph (b)(1) or (b)(2) of this section, to the appropriate NRC Regional Office listed in Appendix A of Part 73 of this chapter, with a copy to the Director of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555, within 30 calendar days after the start of each ending physical inventory required by § 70.51(e)(3).

50 FR 7575

(1) If the inventory difference exceeded both

(i) Twice the standard error of the estimated measurement uncertainty associated with the inventory difference, and

(ii) 200 grams of plutonium or U^{233}, 300 grams of high enriched uranium or uranium-235 contained in high enriched uranium, or 9000 grams of uranium-235 contained in low enriched uranium, a statement of the probable reasons for the excessive inventory difference and corrective actions taken or planned; and

(2) If for any material twice the standard error of the estimated measurement uncertainty associated with the inventory difference exceeds any applicable limits specified in § 70.51(e)(5) or approved pursuant to § 70.51(e)(6) of this chapter, a statement of the probable reasons for the excessive standard error and the actions taken or planned with respect to controlling the standard error within applicable limits.

§ 74.15 Nuclear material transfer reports.

(a) Each licensee who transfers and each licensee who receives special nuclear material shall complete and distribute a Nuclear Material Transaction Report on DOE/NRC Form-741. This should be done in accordance with the printed instructions for completing the form whenever the licensee transfers or receives a quantity of special nuclear material of 1 gram or more of contained uranium-235, uranium-233, or plutonium.

(b) Each licensee who receives 1 gram or more of contained uranium-235, uranium-233, or plutonium from a foreign source shall:

(1) Complete both the supplier's and receiver's portion of DOE/NRC Form-741;

(2) Perform independent tests to assure the accurate identification and measurement of the material received, including its weight and enrichment; and

(3) Indicate the results of these tests on the receiver's portion of the form.

(c) Any licensee who is required to submit inventory change reports on DOE/NRC Form-741 pursuant to § 75.34 of this chapter (pertaining to implementation of the US/IAEA Safeguards Agreement) shall prepare and submit these reports only as provided in that section (instead of as provided in paragraphs (a) and (b) of this section).

Subpart C—Special Nuclear Material of Low Strategic Significance

50 FR 7575

§ 74.31 Nuclear material control and accounting for special nuclear material of low strategic significance.

(a) General performance objectives. Each licensee who is authorized to possess and use more than one effective kilogram of special nuclear material of low strategic significance, excluding sealed sources, at any site or contiguous sites subject to control by the licensee, other than a production or utilization facility licensed pursuant to Part 50 of this chapter, or operations involved in waste disposal, shall implement and maintain a Commission approved material control and accounting system that will achieve the following objectives:

(1) Confirm the presence of special nuclear material;

(2) Resolve indications of missing material; and

(3) Aid in the investigation and recovery of missing material.

(b) Implementation dates. Each licensee subject to the requirements of paragraph (a) of this section shall:

(1) No later than August 26, 1985, submit a fundamental nuclear material control plan describing how the requirements of paragraph (c) of this section will be met; and

(2) No later than December 23, 1985, or 60 days after the plan submitted pursuant to paragraph (b)(1) of this section is approved, whichever is later, implement the approved plan.

(c) System Capabilities. To meet the general performance objectives of § 74.31(a), the material control and accounting system must include the capabilities described in paragraph (c) (1) through (8) of this section. The licensee shall:

(1) Establish, document, and maintain a management structure which assures clear overall responsibility for material control and accounting functions, independence from production responsibilities, separation of key responsibilities, and adequate review and use of critical material control and accounting procedures;

(2) Establish and maintain a measurement system which assures that all quantities in the material accounting records are based on measured values;

(3) Follow a measurement control program which assures that measurement bias is estimated and significant biases are eliminated from inventory difference values of record;

(4) In each inventory period, control total material control and accounting measurement uncertainty so that twice its standard error is less than the greater of 9 kilograms of U^{235} or 0.25 percent of the active inventory, and assure that any measurement performed under contract is controlled so that the licensee can satisfy this requirement;

50 FR 7575

(5) Unless otherwise required to satisfy Part 75 of this chapter, perform a physical inventory at least every 12 months and, within 60 days after the start of the inventory, reconcile and adjust the book inventory to the results of the physical inventory, and resolve, or report an inability to resolve, any inventory difference which is rejected by a statistical test which has a 90 percent power of detecting a discrepancy of a quantity of uranium-235 established by NRC on a site-specific basis;

(6) Maintain current knowledge of items when the sum of the time of existence of an item, the time to make a record of the item, and the time necessary to locate the item exceeds 14 days. Store and handle, or subsequently measure, items in a manner so that unauthorized removals of substantial quantities of material from items will be detected. Exempted are items individually containing less than 500 grams of U^{235} up to a total of 50 kilograms of U^{235}, solutions with a concentration of less than 5 grams of U^{235} per liter, and items of waste destined for burial or incineration;

(7) Resolve, on a shipment basis and when required to satisfy Part 75 of this chapter, on a batch basis, shipper/receiver differences that exceed both twice the combined measurement standard error for that shipment and 500

grams of U^{235}; and

(8) Independently assess the effectiveness of the material control and accounting system at least every 24 months, and document management's action on prior assessment recommendations.

(d) Recordkeeping. Each licensee shall establish records that will demonstrate that the requirements of paragraph (c) of this section have been met and maintain these records for at least 3 years, unless a longer retention time is required by Part 75 of this chapter.

Subpart D—Special Nuclear Material of Moderate Strategic Significance

§ 74.41 [Reserved]

Subpart E—Formula Quantities of Strategic Special Nuclear Material

§ 74.51 [Reserved]

Subpart F—Enforcement

§ 74.81 Inspections.

(a) Each licensee shall afford to the Commission at all reasonable times opportunity to inspect special nuclear material and the premises and facilities wherein special nuclear material is used, produced, or stored.

(b) Each licensee shall make available to the Commission for inspection, upon reasonable notice, records kept by the licensee pertaining to its receipt, possession, use, acquisition, import, export, or transfer of special nuclear material.

50 FR 7575

(c) (1) In the case of fuel cycle facilities where nuclear reactor fuel is fabricated or processed, each licensee shall upon request by the Director, Office of Inspection and Enforcement, provide rent-free office space for the exclusive use of Commission inspection personnel. Heat, air conditioning, light, electrical outlets, and janitorial services shall be furnished by each licensee. The office shall be convenient to and have full access to the facility, and shall provide the inspector both visual and acoustic privacy.

(2) For a site with a single fuel facility licensed pursuant to Part 70 of this chapter, the space provided shall be adequate to accommodate a full-time inspector, a part-time secretary, and transient NRC personnel. It will be generally commensurate with other office facilities at the site. A space of 250 square feet either within the site's office complex or in an office trailer or other on-site space is suggested as a guide. For sites containing multiple fuel facilities, additional space may be requested to accommodate additional full-time inspector(s). The office space that is provided shall be subject to the approval of the Director, Office of Inspection and Enforcement. All furniture, supplies, and communication equipment will be furnished by the Commission.

(3) The licensee shall afford any NRC resident inspector assigned to that site, or other NRC inspectors identified by the Regional Administrator as likely to inspect the facility, immediate unfettered access, equivalent to access provided regular plant employees, following proper identification and compliance with applicable access control measures for security, radiological protection, and personal safety.

§ 74.82 Tests.

Each licensee shall perform, or permit the Commission to perform, any tests that the Commission deems appropriate or necessary for the administration of the regulations in this part, including tests of:

(a) Special nuclear material;

(b) Facilities where special nuclear material is utilized, produced, or stored; and

(c) Other equipment and devices used in connection with the production, utilization, or storage of special nuclear material.

50 FR 7575

§ 74.83 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provisions of the Atomic Energy Act of 1954, as amended, or Title II of the Energy Reorganization Act of 1974, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 74

MATERIAL CONTROL AND ACCOUNTING OF SPECIAL NUCLEAR MATERIAL

STATEMENTS OF CONSIDERATION

50 FR 7575
Published 2/25/85
Effective 3/27/85

Amended Material Control and Accounting Requirements for Special Nuclear Material of Low Strategic Significance

See Part 70 Statements of Consideration

UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 75

SAFEGUARDS ON NUCLEAR MATERIAL—IMPLEMENTATION OF US/IAEA AGREEMENT

General Provisions

Sec.
75.1 Purpose.
75.2 Scope.
75.3 Exemptions.
75.4 Definitions.
75.5 Interpretations.
75.6 Delivery of information, reports, and other communications.
75.7 IAEA representatives.
75.8 Facility attachments.
75.9 Information collection requirements: OMB approval.

Installation Information

75.11 Installation information.
75.12 Communication of information to IAEA.
75.13 Verification.
75.14 Supplemental information.

Material Accounting and Control

75.21 General requirements.
75.22 Accounting records.
75.23 Operating records.
75.24 Retention of records.

Reports

75.31 General requirements.
75.32 Initial inventory report.
75.33 Accounting reports.
75.34 Inventory change reports.
75.35 Material status reports.
75.36 Special reports.
75.37 Disclosure of reports to IAEA.

Installations Designated for IAEA Safeguards

75.41 Designation.
75.42 Inspections.
75.43 Circumstances requiring advance notification.
75.44 Timing of advance notification.
75.45 Content of advance notification.
75.46 Expenses.

Enforcement

75.51 Enforcement.

Authority: Secs. 53, 63, 103, 104, 122, 161b. and o., Pub. L. 83–703, 68 Stat. 930, 932, 936, 937, 939, 948; sec. 5, Pub. L. 88–489, 79 Stat. 602; secs. 4, 5, Pub. L. 91–560, 84 Stat. 1472 (42 U.S.C. 2073, 2093, 2133, 2134, 2152, 2201(b) and (o)); sec. 201, as amended, Pub. L. 93–438, 88 Stat. 1242 (42 U.S.C. 5841).

Note.—For purposes of sec. 223, Pub. L. 83–703, 68 Stat. 958, as amended (42 U.S.C. 2273), the provisions of this part issued under sec. 161o., Pub. L. 83–703, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

General Provisions

§ 75.1 Purpose.

This part establishes a system of nuclear material accounting and nuclear material control to implement, with respect NRC and Agreement State licensees, the Agreement between the United States and the International Atomic Energy Agency (IAEA) for the Application of Safeguards in the United States.

§ 75.2 Scope.

(a) Except as provided in § 75.3, the requirements in this part apply to all persons licensed by the Commission or Agreement States to possess source or special nuclear material at an installation, as defined in § 75.4(k), on the United States eligible list. They also apply, to the extent specified in §§ 50.78, 40.31(g), 70.21(g), and 150.17a of this chapter, to holders of construction permits and to persons who intend to receive source material or special nuclear material.

45 FR 50705

(b) The United States eligible list is a list of installations eligible for IAEA safeguards under the US/IAEA Safeguards Agreement which the Secretary of State or his designee files with the Commission, a copy of which shall be available for inspection at the Commission's Public Document Room at 1717 H Street NW., Washington, D.C. In accordance with the provisions of the Agreement, there will be excluded from the United States eligible list:

(1) Activities having direct national security significance.

(2) Mining and ore processing activities.

§ 75.3 Exemptions.

(a) The Commission may, upon application of any interested person or upon its own initiative, grant exemptions from the requirements of this part that it determines are authorized by law and consistent with the Agreement, are not inimical to the common defense and security, and are otherwise in the public interest.

(b) Without limiting the generality of paragraph (a) of this section, an exemption under this section may be granted with respect to nuclear material of the following types:

(1) Special nuclear material in gram quantities or less as a sensing component in instruments;

(2) Nuclear material used in non-nuclear activities, if such nuclear material is recoverable, and

45 FR 50705

(3) Plutonium with an isotopic concentration of plutonium-238 exceeding 80 percent.

§ 75.4 Definitions.

As used in this part:

(a) Unless otherwise defined in this section, the terms defined in § 40.4, § 50.2, and § 70.4 of this chapter have the same meaning when used in this part.

(b) "Agreement," except as used in the term "Agreement State," means the Agreement between the United States and the International Atomic Energy Agency for the Application of Safeguards in the United States. Unless otherwise specified, the term refers both to the principal text of the Agreement, consisting of 90 articles, and to the Protocol thereto.

(c) "Agreement State" as designated in Part 150 of this chapter means any State with which the Commission has entered into an effective agreement under subsection 274b. of the Act.

(d) "Batch" means a portion of nuclear material handled as a unit for accounting purposes at a key measurement point and for which the

READEX FICHE

composition and quantity are defined by a single set of specifications or measurements. The nuclear material may be in bulk form or contained in a number of separate items.

(e) "Containment"[1] means:

(1) The application of any devices designed to limit the mobility of nuclear material, the access of personnel, or the unauthorized operation of equipment such as transfer valves and sampler lines; and

(2) Structural elements, including the design of buildings and layout of equipment, which minimize and control access to nuclear material.

(f) "Effective kilogram" means a unit used in safeguarding nuclear material. The quantity is:

(1) For special nuclear material: The amount specified in § 70.4(t) of this chapter.

(2) For source material: The amount specified in § 40.4(q) of this chapter.

45 FR 50705

(g) "Facility Attachment" means that portion of the Subsidiary Arrangements to the principal text of the Agreement that pertains to a particular installation that has been identified pursuant to Article 39(b) thereof.

(h) "IAEA" means the International Atomic Energy Agency or its duly authorized representatives.

(i) "IAEA material balance area" means an area established for IAEA accounting purposes, such that:

(1) The quantity of nuclear material in each transfer into or out of each material balance area can be determined; and

(2) The physical inventory of nuclear material in each material balance area can be determined when necessary in accordance with specified procedures.

(j) "Identification under the Agreement" means identification by the IAEA pursuant to Article 39(b) of the principal text of the Agreement or Article 2(a) of the Protocol.

(k) "Installation" means:

(1) A production facility or utilization facility as defined in § 50.2 of this chapter;

(2) A uranium hexafluoride production plant;

(3) A fuel fabrication plant;

(4) An independent spent fuel storage installation as defined in § 72.3(m) of this chapter; or

(5) Any location where the possession of more than one effective kilogram of nuclear material is licensed pursuant to Parts 40 or 70 of this chapter, or pursuant to an Agreement State license.

46 FR 58281

(l) "Inventory change" means an increase or decrease, established in accordance with the procedures required by this part, in terms of batches of nuclear material in an IAEA material balance area.

(m) "Key measurement point" means a location where nuclear material appears in such a form that it may be measured to determine material flow or inventory. Key measurement points thus include, but are not limited to, the inputs and outputs (including measured discards) and storages in material balance areas.

(n) "Nuclear material" means any source material or any special nuclear material.

(o) "Ore processing" means uranium milling and other procedures for producing U_3O_8 from uranium ore or from uranium concentrates produced as a byproduct from phosphate or other non-nuclear chemical production plants.

45 FR 50705

(p) "Surveillance" means instrumental or human observation to indicate or detect the movement of nuclear material.

(q) "Transitional Facility Attachment" means that portion of the Transitional Subsidiary Arrangements to the Protocol to the Agreement that pertains to a particular installation that has been identified pursuant to Article 2(a) thereof.

(r) "United States eligible list" means the list of installations described in § 75.2.

§ 75.5 Interpretations.

Except as authorized specifically by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

§ 75.6 Delivery of information, reports, and other communications.

(a) All information and reports required to be submitted pursuant to the provisions of this part and other communications concerning the regulations in this part shall be delivered as follows:

Item	Section	Manner of deliver
IAEA Representative	75.7	To the Cognizant Director.
Facility Attachments	75.8	Do.
Installation Information	75.11	Do.
Sensitive Information	75.12	Do.
Verification of Installation Information.	75.13	Do.
Supplemental Information.	75.14	Do.
General Requirements (Amplification).	75.31	As specified in the request.
Initial Inventory Report	75.32	In accordance with printed instructions for preparation of DOE/NRC Form-742.
Inventory Change Reports.	75.34	In accordance with printed instructions for preparation of DOE/NRC Form-741, and -740M.
Material Status Reports	75.35	In accordance with printed instructions for preparation of DOE/NRC Form-742, -742C, and -740M.
Special Reports	75.36	To the Regional Office of the NRC Office of Inspection and Enforcement.
Inspection	75.42	Do.
Transfers (advance notification).	75.43	Do.
Delays	75.44	Do.
Other Communications.		To the cognizant Director.

45 FR 50705

(b) If an installation is a nuclear power plant or a non-power reactor for which a construction permit or operating license has been issued, whether or not a license to receive and possess nuclear material at the installation has been issued, the cognizant Director is the Director, Office of Nuclear Reactor Regulation. For all other installations, the cognizant Director is the Director, Office of Nuclear Material Safety and Safeguards.

(c) Written communications to the Directors, Office of Nuclear Material Safety and Safeguards, or Office of Nuclear Reactor Regulation may be delivered by mail, addressed to such Director at the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, or may be addressed to such Director and delivered in person at the Commission's offices 1717 H Street NW., Washington, D.C., or 7920 Norfolk Avenue, Bethesda, Maryland.

(d) Communications to the Regional Office of the NRC Office of Inspection and Enforcement shall be addressed to the office listed in Appendix A of Part 73 of this chapter for the region in which the installation is located.

§ 75.7 IAEA representatives.

Each licensee subject to the provisions of this part shall recognize as a duly authorized representative of the IAEA any person bearing IAEA credentials who at the time of a visit or inspection, or of any visit or inspection within the preceding two years, is or was accompanied by a Commission employee, provided, that if the IAEA representative is not accompanied by a Commission employee, his credentials shall have been confirmed by the Commission in writing for the particular visit or inspection or for a specified term. The licensee shall immediately communicate with the Commission, by telephone, with respect to the credentials of any other person who claims to be an IAEA representative and shall accept telephone confirmation of such credentials by the Commission.

§ 75.8 Facility Attachments.

(a) The Facility Attachment or *Transitional Facility Attachment will* document the determinations referred to

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[1] The term refers to nuclear material safeguards rather than radiological protection.

45 FR 50705

in § 75.11 and will contain such other provisions as may be appropriate.

(b) The Commission will issue license amendments, as necessary, for implementation of the principal text of the Agreement and the Facility Attachment (as amended from time to time). The license amendments through reference to the Facility Attachment or Transitional Facility Attachment, or otherwise, will specify:

(1) IAEA material balance areas;

(2) Types of modifications with respect to which information is required, under § 75.11, to be submitted in advance;

(3) Procedures, as referred to in § 75.21;

(4) The extent to which isotopic composition must be included in batch data (under § 75.22) and advance notification (§ 75.45);

(5) Items to be reported in the concise notes accompanying inventory change reports, as referred to in § 75.34;

(6) Loss limits and changes in containment, as referred to in § 75.36 (pertaining to special reports);

(7) Actions required to be taken, in accordance with § 75.42(e)(2), at the request of an IAEA inspector;

(8) Procedures to be used for documentation of requests under § 75.46 (pertaining to expenses); and

(9) Such other matters as may be appropriate.

(c) The Commission will also issue license amendments, as necessary, for implementation of the Protocol to the Agreement and the Transitional Facility Attachment (as amended from time to time).

(d) License amendments will be made in accordance with the Commission's rules of practice (Part 2 of this chapter). Specifically, if the licensee does not agree to an amendment, an order modifying the license would be issued under § 2.204.

(e) Subject to constraints imposed by the Agreement, the Commission will afford the licensee a reasonable opportunity to participate in the development of the Facility Attachment or Transitional Facility Attachments applicable to the licensee's installation, and any amendments thereto, and to review and comment upon any such instrument before it has been agreed to by the United States. The Commission will provide to the licensee a copy of any such instrument that has been completed in accordance with the Agreement.

49FR19623

§ 75.9 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150–0055.

(b) The approved information collection requirements contained in this part appear in §§ 75.7, 75.12, 75.21, 75.22, 75.23, 75.24, 75.31, 75.36, 75.43, 75.44, and 75.45.

49 FR 19623

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In §§75.11 and 75.14, Form N–71 is approved under control number 3150–0056.

(2) In §§75.31, 75.32, 75.33, and 75.35, Form NRC–742 is approved under control number 3150–0004.

(3) In §§75.33 and 75.34, Form NRC-741 is approved under control number 3150–0003.

(4) In §§75.34 and 75.35, Form NRC-740M is approved under control number 3150–0057.

(5) In §75.35, Form NRC–742C is approved under control number 3150–0058.

45 FR 50705

Installation Information

§ 75.11 Installation information.

(a) Each licensee subject to the provisions of this part shall submit installation information, in response to a written request from the Commission, with respect to any installation which the Commission indicates has been identified under the Agreement and in which the licensee carries out licensed activities. (The Commission request shall state whether the installation has been identified under Article 39(b) of the principal text of the Agreement or Article 2(a) of the Protocol.) The licensee shall submit such information to the Commission within the period, which shall be at least 45 days, specified in the Commission's request.

(b) Installation information includes:

(1) The identification of the installation, stating its general character, purpose, nominal capacity (thermal power level, in the case of power reactors), and geographic location, and the name and address to be used for routine purposes;

(2) A description of the general arrangement of the installation with reference, to the extent feasible, to the form, location and flow of nuclear material, and to the general layout of important items of equipment which use, produce, or process nuclear material;

45 FR 50705

(3) A description of features of the installation relating to material accounting, containment, and surveillance; and

(4) A description of the existing and proposed procedures at the installation for nuclear material accounting and control, with special reference to material balance areas established by the licensee, measurement of flow, and procedures for physical inventory taking. (As part of this description, the licensee may identify a process step involving information which it deems to be commercially sensitive and for which it proposes that a special material balance area be established so as to restrict IAEA access to such information.)

(c) Each licensee shall thereafter submit to the Commission information with respect to any modification at the installation affecting the information referred to in paragraph (a) of this section. Such information shall be submitted:

(1) With respect to a modification of a type described in the license conditions: At least 70 days before the modification is scheduled to be completed, except that in an emergency or other unforeseen situation a shorter period may be approved by the Commission.

(2) With respect to any other modification relevant to the application of the provisions of the Agreement: At the time the first inventory change report is submitted after the modification is completed.

49 FR 19623

(d) The information specified in paragraphs (a) and (c) of this section shall be prepared on Form N–71 or other forms supplied by the Commission (including appropriate IAEA Design Information Questionnaire forms). The information shall be sufficiently detailed to enable knowledgeable determinations to be made in the development of Facility Attachments or amendments thereto, including:

45 FR 50705

(1) Identification of the features of installations and nuclear material relevant to the application of safeguards to nuclear material in sufficient detail to facilitate verification;

(2) Determination of IAEA material balance areas to be used for IAEA accounting purposes and selection of those strategic points which are key measurement points and which will be used to determine flow and inventory of nuclear material;

(3) Establishment of the nominal timing and procedures for taking of physical inventory of nuclear material for IAEA accounting purposes;

(4) Establishment of the records and reports requirements and records evaluation procedures;

(5) Establishment of requirements and procedures for verification of the quantity and location of nuclear material; and

(6) Selection of appropriate combinations of containment and surveillance methods and techniques at the strategic points at which they are to be applied.

(e) The licensee's detailed security measures for the physical protection of an installation shall be included in the installation information only when and to the extent specifically requested by the Commission.

§ 75.12 Communication of information to IAEA.

45 FR 50705

(a) Except as otherwise provided in this section, the Commission will furnish to the IAEA all information submitted under §§ 75.11 and 75.14.

(b)(1) A licensee may request that information of particular sensitivity, which it customarily holds in confidence, not be transmitted physically to the IAEA. A licensee who makes such a request should, at the time the information is submitted, identify the pertinent document or part thereof and make a full statement of the reasons supporting the request.

(2) In considering such a request, it is the policy of the Commission to achieve an effective balance between legitimate concerns of licensees, including protection of the competitive position of the owner of the information, and the undertaking of the United States to cooperate with the IAEA to facilitate the implementation of the safeguards provided for in the Agreement. The

Commission will take into account the obligation of the IAEA to take every precaution to protect commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Agreement.

(3) If a request is denied, the Commission will notify the applicant with a statement of reasons. The notice of denial will specify a time, not less than ten (10) days after the date of the notice, when the information will be transmitted physically to the IAEA.

(4) If a request is granted, the Commission will determine a location where the information will remain readily available for examination by the IAEA, and will so inform the licensee.

(c) A request made under § 2.790(b) of this chapter will not be treated as a request under this section unless the application makes specific reference to this section, nor shall a determination to withhold information from public disclosure necessarily require a determination that such information not be transmitted physically to the IAEA.

(d) Where consistent with the Agreement, the Commission may at its own initiative, or at the request of a licensee, determine that any information submitted under §§ 75.11 and 75.14 shall not be physically transmitted to, or made available for examination by, the IAEA.

45 FR 50705

§ 75.13 Verification.

(a) Each licensee subject to the provisions of this part shall afford to the IAEA during normal working hours, pursuant to prior notice from the Commission, opportunity to visit the installation to verify the installation information submitted under § 75.11. The licensee may accompany IAEA representatives who visit the installation for such purpose, provided that the IAEA representatives shall not be delayed or otherwise impeded in the exercise of their functions.

(b) The notice from the Commission may be given by telephone or in writing and shall provide the licensee actual knowledge of the visit at least three days in advance. The licensee should consult with the Commission immediately if the visit would unduly interfere with its activities or if its key personnel cannot be available.

(c) The Commission will to the extent feasible, unless the licensee agrees otherwise, assign an employee to accompany an IAEA representative engaged in a visit described in this section.

§ 75.14 Supplemental information.

(a) At the time information is submitted by a licensee under § 75.11(a) (Form N-71), and promptly whenever changes are made, such licensee shall submit to the Commission:

49 FR 19623

(1) Information on organizational responsibility for material accounting and control, including information with respect to separation of functions to provide internal checks and balances.

(2) Health and safety rules to be observed by the IAEA inspectors at the installation.

(b) Information submitted pursuant to this section shall indicate that the information is being supplied for purposes of implementation of the US/IAEA Safeguards Agreement.

Material Accounting and Control

§ 75.21 General requirements.

(a) Each licensee who has been given notice by the Commission in writing that its installation has been identified under the Agreement shall establish, maintain and follow written material accounting and control procedures.

(b) The material accounting and control procedures required by paragraph (a) of this section shall include, as appropriate:

(1) A measurement system for the determination of the quantities of nuclear material received, produced, shipped, lost or otherwise removed from inventory, and the quantities on inventory;

45 FR 50705

(2) The evaluation of precision and accuracy of measurements and the estimation of measurement uncertainty;

(3) Procedures for identifying, reviewing and evaluating differences in shipper/receiver measurements;

(4) Procedures, including frequency, for taking a physical inventory;

(5) Procedures for the evaluation of accumulations of unmeasured inventory and unmeasured losses; and

(6) A system of accounting and operating records.

(c)(1) The procedures shall, unless otherwise specified in license conditions, conform to the installation information submitted by the licensee under § 75.11.

(2) Until installation information has been submitted by the licensee, the procedures shall be sufficient to document changes in the quantity of nuclear material in or at its installation. Observance of the procedures described in § 40.61 or § 70.51 of this chapter (or the corresponding provisions of the regulations of an Agreement State) by any licensee subject thereto shall constitute compliance with this paragraph (c)(2).

(d) The requirements of this section are in addition to any other requirements of this chapter, relating to material accounting and control, that may apply to the licensee.

§ 75.22 Accounting records.

(a) The accounting records required by § 75.21 shall include, for each IAEA material balance area:

(1) All inventory changes, so as to permit a determination of the book inventory at any time;

(2) All measurement results that are used for determination of nuclear material quantities; and

(3) All adjustments and corrections that have been made with respect to inventory changes, book inventories and physical inventories.

(b) The records shall show, for each batch of nuclear material: material identification, batch data and source data. The "batch data" means a separate listing of the total weight of each element of nuclear material (including, as specified in the license conditions, isotopic composition for special nuclear material) with plutonium and enriched uranium measured in grams and natural or depleted uranium and thorium measured in kilograms. The "source data" are the data, recorded during measurement or calibration or used to derive empirical relationships, which identify nuclear material and provide batch data.

45 FR 50705

(c) For each inventory change, the records shall show the date of the inventory change and, when appropriate, (1) the originating IAEA material balance area or the shipper, and (2) the receiving IAEA material balance area or the recipient.

§ 75.23 Operating records.

The operating records required by § 75.21 shall include, as appropriate, for each IAEA material balance area:

(a) Those operating data which are used to establish changes in the quantities and composition of nuclear material;

(b) The data obtained from the calibration of tanks and instruments and from sampling and analyses, the procedures employed to control the quality of measurements, and the derived estimates of random and systematic error;

(c) A description of the sequence of the actions taken in preparing for, and in taking, a physical inventory, to ensure that it is correct and complete; and

(d) A description of the actions taken to ascertain the magnitude and cause of any accidental or unmeasured loss that might occur.

§ 75.24 Retention of records.

The records referred to in §§ 75.22 and 75.23 shall be retained by the licensee for at least five years.

Reports

§ 75.31 General requirements.

Each licensee who has been given notice by the Commission in writing that its installation has been identified under the Agreement shall make an initial inventory report, on DOE/NRC Form-742, and thereafter shall make accounting reports, with respect to such installation; and, in addition, licensees who have been given notice, pursuant to § 75.41, that their installations are subject to the application of IAEA safeguards, shall make the special reports described in § 75.36. Such reports shall be based on the records kept in accordance with § 75.21. At the request of the Commission, the licensee shall amplify or clarify any report with respect to any matter relevant to implementation of the Agreement. Such amplification or clarification shall be in writing and shall be submitted, to the address specified in the request, within twenty (20) days or such other time as may be specified by the Commission.

49 FR 19623

§ 75.32 Initial inventory report.

(a) The initial inventory reporting date shall be the last day of the calendar month in which the Commission gives the licensee notice that an initial inventory report is required.

(b) The initial inventory report, to be submitted to the Commission on DOE/NRC Form-742, Material Balance Report, in accordance with printed instructions for completing the form, shall show the quantities of nuclear material contained in or at an installation as of the initial inventory reporting date. The information in the initial inventory report may be based upon the licensee's book record.

(c) The initial inventory report shall be dispatched within twenty (20) days after the initial inventory reporting date.

45 FR 50705

§ 75.33 Accounting reports.

(a) The accounting reports for each IAEA material balance area shall consist of (1) inventory change reports showing all changes in the inventory of nuclear material on DOE/NRC Form-741 and (2) material status reports showing the material balance based on a physical inventory of nuclear material actually present on DOE/NRC Form-742.

(b) The reports shall be based on data available as of the date of reporting and may be corrected at a later date, as required.

49 FR 19623

§ 75.34 Inventory change reports.

(a) Inventory change reports, to be submitted on DOE/NRC Form–741, Nuclear Material Transaction Report, and prepared in accordance with **printed instructions for completing the form, shall specify identification and batch data for each batch of nuclear material, the date of the inventory change, and, as appropriate, (1) the originating IAEA material balance area or the shipper and (2) the receiving IAEA material balance area or the recipient. Each licensee who receives special nuclear material from a foreign source shall complete both the supplier's and receiver's portion of DOE/NRC Form–741; perform independent tests to assure the accurate identification and measurement of the material received including its weight and enrichment; and indicate the results of these tests on the receiver's portion of the form.**

45 FR 73012

(b) Inventory change reports, when appropriate, will be accompanied by concise notes submitted on DOE/NRC Form-740M, Concise Note, and prepared in accordance with printed instructions for completing the form:

(1) Explaining the inventory changes on the basis of the operating records provided for under § 75.23; and

(2) Describing, to the extent specified in the license conditions, the anticipated operational program for the installation, including particularly, but not exclusively, the schedule for taking physical inventory.

§ 75.35 Material status reports.

(a) A material status report shall be submitted for each physical inventory which is taken as part of the material accounting and control procedures required by § 75.21. The material status report shall include a Material Balance Report (on DOE/NRC Form-742) and, attached thereto, a Physical Inventory Listing (on DOE/NRC Form-742C) which lists all batches separately and specifies material identification and batch data for each batch. Also, when appropriate, the material status report shall be accompanied by DOE/NRC Form-740M, Concise Note. The reports specified in this section shall be prepared and submitted in accordance with the printed instructions for completing the referenced forms.

(b) Unless otherwise specified in the license conditions, material status reports shall be dispatched as soon as possible and in any event within thirty (30) days after the start of the physical inventory.

§ 75.36 Special reports.

(a) This section applies only to licensees who have been given notice, pursuant to § 75.41, that their installations are subject to the application of IAEA safeguards.

45 FR 50705

(b) Each licensee who is subject to this section shall immediately make a special report to the Commission, by telephone (and also by telegraph, mailgram, or facsimile), in those situations described in license conditions.

(c) The situations referred to in paragraph (b) of this section include (1) the possibility of loss of nuclear material in excess of specified limits and (2) unexpected changes in containment to the extent that unauthorized removal of nuclear material has become possible.

§ 75.37 Disclosure of reports to IAEA.

The Commission may communicate to the IAEA any reports submitted to it pursuant to this part or any information contained in such reports.

Installations Designated for IAEA Safeguards

§ 75.41 Designation.

The Commission, by written notice, will designate those installations which, in accordance with identifications made from time to time by the IAEA, under Article 39(b) of the principal text of the Agreement, are subject to the application of IAEA safeguards. Such notice shall be effective until the Commission informs the licensee, in writing, that its installation is no longer so designated. Whenever a previously-designated installation is no longer subject to the application of IAEA safeguards, the Commission will give the licensee prompt notice to that effect.

45 FR 50705

§ 75.42 Inspections.

(a) Each licensee who has been given notice pursuant to § 75.41 shall afford to the IAEA, at all reasonable times, opportunity to inspect its designated installation as provided in this section. Licensee representatives may accompany IAEA inspectors, provided that the IAEA inspectors are not thereby delayed or otherwise impeded in the exercise of their functions.

(b) As provided in the Agreement, an inspection may be ad hoc, routine, or special (or a combination of the foregoing). An inspection shall be deemed to be routine unless the Commission has specifically advised the licensee otherwise.

(c) The locations to which IAEA inspectors shall have access in the performance of inspections shall be as follows:

(1) Ad hoc inspections to verify information contained in the licensee's initial inventory report or to identify and verify changes in the situation which have occurred since the initial inventory reporting date: any location where the initial inventory report or any inspections carried out therewith indicate that nuclear material subject to safeguards under the Agreement may be

present.

(2) Ad hoc inspections to identify and if possible verify the quantity and composition of the nuclear material referred to in notifications given under § 75.43(b) (pertaining to exports) or § 75.43(c) (pertaining to imports): Any place where such nuclear material may be located.

(3) Routine inspections: The strategic points referred to in § 75.11 (or, until such strategic points have been specified, to the locations referred to in paragraph (c)(1) of this section) and the records maintained pursuant to this part.

(4) Special inspections: Any of the locations specified above and any additional locations where the Commission, in response to an IAEA request, finds access to be necessary.

(d) Each licensee shall permit the IAEA, in conducting any such inspections, to:

(1) Examine the records kept pursuant to § 75.21 of this part;

(2) Observe that the measurements of nuclear material at key measurement points for material balance accounting are representative;

(3) Verify the functioning and calibration of instruments and other measuring control equipment.

45 FR 50705

(4) Observe that samples at key measurement points for material balance accounting are taken in accordance with procedures which produce representative samples, to observe the treatment and analysis of the samples, and to obtain duplicates of such samples; and

(5) Arrange to use the IAEA's own equipment for independent measurement and surveillance.

(e) Each licensee shall, at the request of an IAEA inspector:

(1) Ship samples taken for the IAEA's use, in accordance with applicable packaging and export licensing regulations, by the method of carriage and to the address specified by the inspector; and

(2) Take other actions contemplated by the Agreement, as evidenced by the license conditions, including, for example:

(i) Enabling the IAEA to arrange to install its equipment for measurement and surveillance;

(ii) Enabling the IAEA to apply its seals and other identifying and tamper-indicating devices to containments;

(iii) Making additional measurements and taking additional samples for the IAEA's use:

(iv) Analyzing the IAEA's standard analytical samples;

(v) Using appropriate standards in calibrating instruments and other equipment; and

(vi) Carrying out other calibrations.

(f) Nothing in this section shall be deemed to require or authorize the licensee to carry out any operation that would otherwise constitute a violation of the terms of any applicable license, regulation, or order of the Commission.

(g) The Commission will to the extent feasible, unless the licensee agrees otherwise, assign an employee to accompany any IAEA representative engaged in an inspection described in this section.

(h) The Commission will normally provide a licensee advance notification of any inspection to be carried out by IAEA representatives. The licensee shall notify the Commission promptly, by telephone, whenever an IAEA inspector arrives at an installation without such advance notification.

§ 75.43 Circumstances requiring advance notification.

(a) Each licensee who has been given notice, pursuant to § 75.41, shall give advance written notification to the Commission with respect to the international and domestic transfers specified in this section.

(b) Exports. Notification shall be given of any proposed shipment of nuclear material for peaceful purposes under an export license issued pursuant to Part 110 of this chapter, in an amount exceeding one effective kilogram, directly or indirectly to any non-nuclear-weapon state (as referred to in Article III(2) of the Treaty on the Non-Proliferation of Nuclear Weapons, 21 U.S.T. 483). If the licensee anticipates that it will make two or more shipments for peaceful purposes, within any period of 90 days, directly or indirectly to destinations in the same non-nuclear-weapon state, notification shall be given of each shipment if the aggregate quantity of nuclear material to be transferred exceeds one effective kilogram.[2]

45 FR 50705

(c) *Imports.* (1) Notification shall be given (to the fullest extent possible on the basis of available information) with respect to nuclear material which immediately prior to export is subject to safeguards, under an agreement with the IAEA, in the country from which the material, directly or indirectly, is being exported. Such notification is only required, however, if the quantities of nuclear material are as specified in paragraph (c)(2) of this section.

(2) Notification shall be given with respect to any proposed import of nuclear material described in paragraph (c)(1) of this section in an amount exceeding one effective kilogram. If the licensee anticipates that it will receive two or more shipments of such nuclear material, within any 90-day period from points of origin in the same country, notification shall be given with respect to each shipment if the aggregate quantity of such nuclear material to be received exceeds one effective kilogram.

(d) *Domestic transfers.* Notification shall be given with respect to any shipments of nuclear material (other than small quantities in the form of samples containing less than 0.01 effective kilogram per sample) to a non-eligible destination. As used in this paragraph, a "non-eligible destination" means any destination in the United States other than an installation on the United States eligible list.

§ 75.44 Timing of advance notification.

(a) Except as provided in paragraph (b) of this section, notification to the Commission, where required by § 75.43, shall be given:

(1) In the case of exports and domestic transfers, at least twenty days in advance of the preparation of the nuclear material for shipment from the installation.

(2) In the case of imports, at least twelve days in advance of the unpackaging of nuclear material at the installation.

45 FR 50705

(b) For a particular receipt or shipment of nuclear material, the Commission will approve a shorter notice period than that specified by paragraph (a) of this section, for good cause, if it determines that observing the specified notification period would result in delay in shipment or unpackaging.

(c) The licensee shall inform the Commission, by phone, as soon as possible, with respect to any delay in the receipt (or unpackaging) or the shipment (or preparation for shipment) of nuclear material for which advance notification is required. New dates should be provided, if known.

§ 75.45 Content of advance notification.

(a) The notifications required by § 75.43 shall include the element weight of nuclear material being received or shipped, the chemical composition and physical form, the isotopic composition (to the extent specified by license conditions), the estimated date and place at the reporting installation where the nuclear material is to be unpackaged or prepared for shipment (and where the quantity and composition can be verified), the applicable IAEA material balance area at the reporting installation, the approximate number of items to be received or shipped, and the probable dates of receipt or shipment. The notification shall indicate that the information is being supplied pursuant to § 75.43.

(b) The notifications required with

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[2] All foreign countries, with the exception of the People's Republic of China, France, the Soviet Union, and the United Kingdom, are non-nuclear-weapon states. Treaty on the Non-Proliferation of Nuclear Weapons, Article IX(3).

respect to export and import shipments shall also include

(1) If available, a general description of containers (including, in the case of exports, features that would permit sealing);

(2) Destination of export as authorized under an export license issued pursuant to Part 110 of this chapter, or origin of import (by country and, if known, place);

(3) Means of transport; and

(4) Expected date and place of arrival in the destination country (for exports) or in the United States (for imports).

§ 75.46 Expenses.

(a) Under the Agreement, the IAEA undertakes to reimburse a licensee who has been given notice, pursuant to § 75.41, for extraordinary expenses incurred as a result of its specific request: *Provided*, That the IAEA has agreed in advance to do so. The Agreement also contemplates that in any case the IAEA will reimburse a licensee for the cost of making additional measurements or taking samples at the specific request of an IAEA inspector.

(b) The Commission will inform the licensee, in the license conditions or other written communication, of those items of extraordinary expense which the Agency has agreed in advance to reimburse.

45 FR 50705

(c) The Commission will inform the licensee, in the license conditions, of the procedures to be used to document:

(1) An IAEA inspector's request for making additional measurements or taking additional samples; and

(2) An IAEA request for a particular action by the licensee that will give rise to reimbursable extraordinary expense.

(d) The Commission will take such action as it finds to be appropriate to assist the licensee with respect to the reimbursement of any expense which, under the Agreement, is to be borne by the IAEA.

Enforcement

§ 75.51 Enforcement.

(a) An injunction or other court order may be obtained prohibiting any violation of any provision of the Atomic Energy Act of 1954, as amended, or Title II of the Energy Reorganization Act of 1974, or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act, or section 206 of the Energy Reorganization Act of 1974, or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law.

45 FR 50705

(b) The Commission may issue such orders to secure compliance with the provisions of this part or to prohibit any violation of such provisions as may be proper to protect the common defense and security. Enforcement actions, including proceedings instituted with respect to Agreement State licensees, will be conducted in accordance with the procedures set forth in Part 2, Subpart B of this chapter. Only NRC licensees, however, are subject to license modification, suspension, or revocation as such as a result of such enforcement actions.

UNITED STATES NUCLEAR REGULATORY COMMISSION
RULES and REGULATIONS
TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS — ENERGY

PART 75

SAFEGUARDS ON NUCLEAR MATERIAL—IMPLEMENTATION OF US/IAEA AGREEMENT

STATEMENTS OF CONSIDERATION

45 FR 50706
Published 7/31/80
Effective 7/31/80
Effective Date 12/24/80 *

10 CFR Parts 40, 50, 70, 75, 150, and 170

Safeguards on Nuclear Material—Implementation of US/IAEA Agreement

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Commission is amending its regulations to enable the United States to implement the US/IAEA Safeguards Agreement, with respect to licensed activities, as soon as the Agreement enters into force. Implementation of the Agreement will require the cooperation of NRC and Agreement State licensees, in accordance with appropriate regulations. The rules published here are the means by which the Agreement will be implemented with respect to licensed activities.

EFFECTIVE DATE: Upon the Agreement's entry into force and publication of notice thereof in the Federal Register.*

*Note.—The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for such review as may be appropriate under the Federal Reports Act, as amended, 44 U.S.C. 3512. The reporting requirements of this rule will not become effective until clearance is granted by the General Accounting Office following review as set forth in 44 U.S.C. 3512(c)(2). Comments regarding the report forms and instructions may also be submitted directly to the Commission. Submissions made within 21 days after GAO's publication, in the Federal Register, of notice of receipt of NRC's report proposals will be considered by the Commission before the forms are placed into use.

FOR FURTHER INFORMATION CONTACT: Mr. L. C. Solem, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Phone 301–443–5903); Mr. James R. Wolf, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Phone 301–492–8694); or Mr. Paul K. Morrow, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Phone 301–427–4004).

SUPPLEMENTARY INFORMATION: On May 25, 1978, the Nuclear Regulatory Commission published in the Federal Register (43 FR 22365) proposed amendments to Parts 40, 50, 70, and 150 and a new proposed Part 75 to Title 10, Code of Federal Regulations. Interested persons were invited to submit written comments or suggestions in connection with the proposed amendments within 60 days after publication in the Federal Register. On November 21, 1978, the Commission published a notice (43 FR 54255) regarding the availability of certain supplemental documents and extending the period of comment for 30 days. On July 17, 1979, the Commission published revised proposed amendments (44 FR 41468). Interested persons were invited to submit written comments and suggestions. Upon consideration of the comments received from 7 licensees and the Texas Department of Health, the Nuclear Regulatory Commission has decided to adopt and publish, with modification, the revised proposed amendments to Title 10, Chapter I, Code of Federal Regulations. Copies of the comments and an analysis of them by the NRC staff are available in the Commission's Public Document Room.

Overview

The United States, as a party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), has joined with other nations in an effort to limit the spread of nuclear weapons. To encourage widespread adherence to the NPT by non-nuclear-weapon States, President Johnson in 1967 announced that the United States would permit IAEA to apply its safeguards to nuclear activities in this country—excluding only those with direct national security significance. This policy has been reaffirmed by each succeeding President and has been referred to by other Governments as a consideration affecting their decisions to ratify the NPT.

The instrument for applying IAEA safeguards in the United States would be a formal Agreement between the U.S. Government and the International Atomic Energy Agency, to which the U.S. Senate gave its advice and consent to ratification as a treaty on July 2, 1980. The US/IAEA Agreement contains provisions which parallel agreements between the IAEA and non-nuclear-weapon States, the principal difference being the exclusion of national security activities. Implementation of the Agreement will require the cooperation of NRC and Agreement State licensees, in accordance with appropriate regulations. The rules published here are the means by which the Agreement will be implemented with respect to licensed activities.

The provisions of the Agreement were the subject of hearings before the Senate Committee on Foreign Relations on June 22 and December 11, 1979. In the development of these rules, the Commission has considered the matters discussed during those hearings and subsequent Senate deliberations. In particular the rules reflect our intention to work closely with licensees so as to ensure, insofar as possible, that the Agreement can be implemented in a spirit of full cooperation. It is widely recognized that IAEA safeguards can help protect the international community from nuclear proliferation, and the Commission perceives a general willingness to join together in efforts toward that end.

Changes

In summary, differences from the proposed amendments published for comment on July 17, 1979, are: (1) The regulations now specifically refer to Facility Attachments (or Transitional Facility Attachments) negotiated under the Agreement and indicate that certain provisions of the Facility Attachments will be reflected in license conditions; (2) licensees' opportunities for consultation are expanded; (3) various clarifying amendments have been made

*Amended 45 FR 84967

to reflect more clearly the structure of the Agreement, particularly with respect to identifications made under either the principal text or the Protocol; (4) procedures are provided for resolution of certain issues outside the context of a show-cause proceeding; (5) inspections are categorized by type, with inspectors' access rights further defined; (6) reference is made to a licensee's opportunity to propose that a special material balance area be established around process steps involving commercially sensitive information; (7) the standard for measuring sufficiency of installation information is revised to correct the implication that determinations are made unilaterally by IAEA; (8) licensees are advised not to include details of physical security plans in installation information; (9) provisions for reporting of modifications affecting installation information have been clarified and relaxed, particularly with respect to emergency or unforeseen situations; (10) the Commission's intention to provide NRC representatives to accompany IAEA inspectors is stated more positively; (11) licensees are relieved of the responsibility to revise their material accounting and control procedures until the Facility Attachment has been completed; (12) requirements with respect to records and reports describing the isotopic composition of licensees' holdings have been made less burdensome; (13) the inventory change report provision includes a better definition of the "concise note" requirement and is conformed to domestic safeguards regulations, particularly with respect to submission formalities; (14) scheduling for material status reports is made more flexible and the occasions when such reports are required are described more precisely; (15) the special reports provision has been revised with a view to minimizing efforts beyond those called for under the Agreement; (16) the Commission's intent to give prompt notice to a licensee when its installation is no longer subject to application of IAEA safeguards is made explicit; (17) the regulations now state that the IAEA will "reimburse for" (instead of the less specific "bear the cost of") certain expenses; (18) the provision pertaining to the breaking of IAEA seals has been stricken; and (19) miscellaneous minor changes have been made for purposes of clarification.

The following discussion pertains primarily to items (1) through (19) above. In come cases, the discussion also treats related suggestions which were considered by the Commission, but which—for the reasons stated—were not accepted.

(1) *Facility Attachments.* Implementation of the Agreement will require that a Facility Attachment be prepared for each installation where nuclear material subject to IAEA safeguards is located. (A Transitional Facility Attachment, which may omit a number of provisions, such as those applicable to inspections and special reports, will have to be prepared for an installation identified under the Protocol to the Agreement.) The proposed rule made no explicit reference to the Facility Attachment, but instead simply noted that certain written communications (intended to be based upon the Facility Attachment) would be binding upon licensees.

The Commission believes that the addition of language that refers expressly to the Facility Attachment will clarify the implementation process. Thus, instead of affording a licensee an opportunity to be consulted with respect to any matters that are to be the "subject of Agency determinations," the final rules relate licensee participation specifically to the contents of the Facility Attachment (or Transitional Facility Attachments). A further clarification is achieved by providing that certain provisions of the Facility Attachment will be referred to or reflected in license conditions. These changes appear in § 75.4 (additional definitions), § 75.8 (dealing with Facility Attachments), and §§ 75.11, 75.21, 75.22, 75.34, 75.35, 75.36, 75.42, 75.45 and 75.46 (references to license conditions). However, because Agreement State licensees are not subject to NRC license conditions, § 150.17a has been amended to indicate that the equivalent of license conditions would be provided, for such licensees, in the form of orders issued under section 274m of the Atomic Energy Act.

We have not implemented a suggestion that certain specific factors (e.g., cost-effectiveness) be identified as considerations that will influence the provisions of Facility Attachments. It is preferable to use general terms because of the wide range of provisions in the Agreement that must be given effect.

(2) *Consultation.* Several commenters once again noted the importance of licensees playing an active role in the negotiation of the Facility Attachment. The final rules accommodate these concerns by giving assurance that a licensee will be afforded a reasonable opportunity to participate in the development of the Facility Attachment and to review and comment upon it before it has been agreed to by the United States. (See § 75.8.) The Commission will give full and fair consideration to the comments of the licensee and will provide, on request, a statement of reasons for any conclusions it has reached that are contrary to the views of the licensee.

A number of commenters raised issues that will be addressed when Facility Attachments are prepared. The revised consultation provision gives further recognition to the rights of licensees to be heard at that time. It would be premature to accommodate such concerns in the rule, however, as their resolution will require agreement with the IAEA.

(3) *Terminology conforming to Agreement.* Several changes relate the language of the regulations more closely to that of the Agreement. Thus, as already mentioned, the final rules refer specifically to Facility Attachments and Transitional Facility Attachments. Similarly, where the context requires, the regulations now explicitly differentiate obligations arising under the principal text of the Agreement (relating to licensees whose installations are subject to the application of IAEA safeguards, including a program of inspections) from licensee obligations which arise under the Protocol to the Agreement.

The revised definition of "Agreement" points out that the term includes the Protocol "unless otherwise specified." Where the intent is to refer specifically either to the principal text on the one hand or to the Protocol on the other, the language so indicates. (See §§ 75.4(g), 75.4(q), 75.8, 75.41.) Although references to the Agreement in §§ 75.42 through 75.46 relate to activities under the principal text of the Agreement, and not the Protocol, limiting language was not inserted because in those sections the references back to § 75.41 adequately indicate that it is the principal text that is relevant.

Note also the addition of the defined term "identification under the Agreement" (§ 75.4(j)), which includes "identifications" (selections by IAEA from the eligible list) made under either Article 39(b) of the principal text of the Agreement or Article 2(a) of the Protocol. This term is used in the definitions of Facility Attachment and Transitional Facility Attachment, and in §§ 75.11, 75.21, 75.31, and 75.41. The significance of this addition is that it limits the implementation of the reporting and other provisions of the regulations to those installations which have been selected by IAEA under the principal text of the Agreement or the Protocol. In view of the applicable time constraints, the Commission had earlier contemplated that requests for installation information, in particular, might be made before formal identification by IAEA, but now believes that such a procedure should be avoided, at least at the outset, so to avoid any unnecessary burdens upon licensees. (Note that, in accordance with § 75.11(a), the Commission will specify the instrument under which the indentification has been made.)

(4) *Recourse procedures.* Some commenters requested that a procedure be established that would enable disputes with licensees to be resolved by means other than an enforcement proceeding. We construe this suggestion as relating particularly to proceedings instituted by a show-cause order under § 2.202. The Commission believes that this concern is answered, in part, by providing, in § 75.8, that requirements reflecting provisions of the Facility Attachments, unless agreed to by the licensee, will be issued in the form of license amendments under § 2.204 of the NRC rules of practice. A licensee has a right to a hearing with respect to an order entered pursuant to that regulation unless the Commission finds that the public health, safety, or interest requires the order to be made effective immediately. (In view of this change, the caption of § 75.51 has been changed from "Violations" to "Enforcement" and the references to § 2.201 and § 2.202 have been broadened to refer to Part 2, Subpart B instead.)

We have considered a suggestion that disputes arising in the course of IAEA inspections should be handled in a way that would allow a decision to be deferred until the cognizant Director (as specified in § 75.6(b)), after submission of the matter to him by interested parties, had made a determination. The proposal is unacceptable because, if applied, it could interfere with the IAEA's ability to implement a satisfactory safeguards regime. Another suggestion called for a special procedure to resolve disputes over installation information involving license applicants. This is unnecessary, however, because existing procedures allow for prompt resolution. For utilization facilities, the issues would arise in a context separate from the proceedings for the issuance of a construction permit or operating license. (A request would be issued under § 50.78 and would be determined, if necessary, under Part 2, Subpart B.) Applicants for materials licenses would be advised, should informal techniques prove to be unavailing, that the application does not comply with Commission regulations (§ 2.103) or that there has been a failure to supply required information (§ 2.108), and in either case a hearing could be scheduled promptly to resolve the issue.

(5) *Inspection categories.* One commenter took exception to the Commission's earlier statement that the regulations need not differentiate among types of inspections because in each case the obligations of licensees would be the same. We have reviewed the provisions of the Agreement once again and have determined that the locations to which an IAEA inspector may have access will depend upon the type of inspection. Section 75.42 has been modified to reflect the access provisions contained in Article 74.

(6) *Commercially sensitive process steps.* A commenter requested that the provisions of Article 46(b)(iv), which relates to the establishment of special material balance areas around process steps involving commercially sensitive information, should be incorporated in the regulations. While the proposed rule would have permitted a licensee to request such an MBA to be established, this is now made explicit in revised § 75.11(b)(4). It is anticipated, however, that this course would be followed only in exceptional situations and only where compatible with the terms and objectives of the Agreement.

(7) *"Agency determinations".* The provisions relating to submission of installation information (in § 75.11) have been amended to eliminate the term "Agency determinations." The matters involved are those to be included in the Facility Attachments, and thus the determinations will not be made unilaterally by IAEA. The new language corresponds more closely to its counterpart in Article 46 of the Agreement.

(8) *Physical security plans.* The proposed rules provided for the withholding of details of physical security plans from physical transmission to the IAEA. We have determined, however, that such information need not ordinarily be included in installation information and have so indicated in § 75.11(e). Nevertheless, to provide a clear basis for denying access to such information (or other information), where consistent with the Agreement, we have retained (with modification) a portion of former § 75.12(c). (Paragraphs in § 75.12 have been rearranged for editorial reasons.)

(9) *Modifications to installation information.* Section 75.11(c) has been revised, in response to comments, so as to provide greater guidance and flexibility. First, the revised rules provide that the types of modifications that must be reported in advance will be set out in license conditions; this should result in greater specificity than the previously proposed language calling for such reporting when, among other things, a modification would decrease the effectiveness of the material accounting and control procedures. This amendment reflects the provision of Code 3.1.3 of the Subsidiary Arrangements, which contemplates that the types of modifications in question will be identified in the Facility Attachment. Second, a shorter reporting period is permitted, where approved by the Commission, in the event of unforeseen situations. This again implements Code 3.1.3, which requires that the longer notice period shall "normally" be provided. Third, since the modifications required to be reported under Article 45 are those "relevant for safeguards purposes," the duty to submit information with inventory change reports has correspondingly been restricted in § 75.11(c)(2). Finally, the deletion of the reference to "changes" (in addition to "modifications") is more faithful to Article 45.

(10) *IAEA inspections and visits.* In response to commenters' renewed urging that NRC inspectors accompany IAEA representatives, both §§ 75.13 and 75.42 have been revised to indicate that this will be done, to the extent feasible, unless the licensee agrees otherwise (instead of "upon request by a licensee"). However, to assure that the unavailability of NRC personnel does not result in a licensee's denying access to an IAEA inspector in violation of the Agreement, the regulations still require that unaccompanied inspectors be admitted.

A clarifying amendment with respect to the advance notice period has been included in § 75.13 to indicate that the allotted 3-day period does not commence at the time of posting of a written communication, but rather upon receipt of the information (whether by telephone or by mail). Further expansion of the minimum-notice period would be inconsistent with undertakings of the IAEA; nevertheless, licensees will be given as much notice as possible, since this should serve the interests of all in assuring that the IAEA visits are productive.

While a proposal that verification visits under § 75.13 be put off if key personnel are unavailable has not been accepted in full, that section has been revised to indicate that licensees should consult with the Commission immediately if this is the case. NRC would then proceed to take such action as necessary in light of Article 48 (relating to the sending of inspectors "in cooperation with the United States") and Article 9(c)(i), which provides that visits be arranged so as to "reduce to a minimum the possible inconvenience and disturbance" to the activities of the licensee concerned.

As noted above, § 75.42 has been modified to reflect the types of inspections authorized by the Agreement and to define more clearly inspectors' rights of access. In addition to giving licensees advance notification of inspections, in accordance with § 75.42(h), the Commission expects to periodically furnish licensees with other information regarding the IAEA inspection program.

(11) *Scope and implementation of procedures.* A commenter objected to the language in § 75.21 that would obligate a licensee to overhaul its procedures in advance of the negotiation of a Facility Attachment. Article 40(c), which allows the IAEA to apply safeguards on a interim basis, had been cited as the grounds for this provision. Upon further consideration, the conclusion reached is that Article 40(c) can be applied while the licensee continues to use its established material accounting and control procedures. It will be sufficient for the licensee to use those procedures so long as they allow inventory changes to be documented. (Code 10 of the Subsidiary Arrangements). As the schedule for implementation will be specified in license conditions, the reference (in former § 75.21(e)) to a 10-day period has been deleted. The qualifying language in § 75.21(b) also reflects the fact that the provisions of the Agreement may, for some installations, be achievable without procedures falling in each enumerated category.

Note the deletion of the reference to batch accounting, contained in former § 75.21(b). That provision was determined to be redundant.

The change in § 75.21(b)(6), substituting "a system of accounting and operating records" for "maintenance of" such records, adopts the parallel language of Article 32.

(12) *Records and reports of isotopic composition.* A commenter pointed out that the provision for including "isotopic composition" in the batch data defined in § 75.22(b) could be construed to call for a complete spectrum of major and minor isotopes present. This would go beyond the definition of "batch data" in Article 90D of the Agreement, which requires inclusion of isotopic composition "when appropriate." The extent to which the information is appropriate will depend upon the character of the activities involved. For a particular licensee it will be specified in the Facility Attachment. § 75.22(b) has accordingly been changed to relate the isotopic-composition recordkeeping requirement to license conditions (which will reflect the terms of the Facility Attachment).

The comment also prompted a change in § 75.45, which now calls for advance notifications of transfers to include isotopic composition data, other than fissile isotope weights, only to the extent specified by license conditions. This is more faithful to the provisions of the Subsidiary Arrangements.

(13) *Inventory change reports.* Section 75.34 has been amended to indicate that "concise notes," when appropriate, will be submitted on a separate form (DOE/NRC Form-740M, Concise Note) and to limit the requirement with respect to reports of the anticipated operational program so that it includes only matters that are specified in license conditions. The schedule for submission of the forms (former § 75.34(c)) has been deleted because it will be dealt with explicitly in the instructions; similar changes have been made in § 70.54 (nuclear material transfer reports in the domestic safeguards program) to assure consistency with Part 75. See also the conforming change in the source material regulations (§ 40.64).

(14) *Material status reports.* Revised material accounting procedures will require the use of two separate forms, a Material Balance Report (DOE/NRC Form-742) and a Physical Inventory Listing (DOE/NRC Form-742C). These are collectively referred to in § 75.35 as material status reports. Conforming changes also are made in § 40.64 (pertaining to source material) and § 70.53 (pertaining to special nuclear material), which sections also have been amended to eliminate conflict with the requirements of Part 75 (particularly with respect to scheduling).

Section 75.35 also has been modified to make it clear that physical inventory reports are required only for inventories which are taken in response to the requirements of Part 75. The reports need not be prepared for other inventories, such as those taken routinely for internal control purposes. Details with respect to entries on the forms have been deleted because they were incomplete and because the matter will be addressed specifically in the instructions for completing the forms. Further, the final rule allows for completion dates to be included in the license conditions; this may be necessary in some cases to assure compliance with Article 61(b) of the Agreement.

(15) *Special reports.* The Commission has once again reviewed comments to the effect that the special reports provision (§ 75.36) is unnecessarily burdensome, particularly with respect to losses of containment that occur "unexpectedly." Since the subject is one that will be treated in detail in the Facility Attachments, the Commission has determined that the requirements for particular installations should be treated in license conditions. Such conditions, tailored to the circumstances of individual licensees, will be phrased in a manner that will eliminate much of the concern that has been expressed. Language also has been inserted in § 75.31, which eliminates a perceived inconsistency in the regulations regarding the coverage of the special reports requirement.

(16) *Termination of installation designation.* The provision dealing with designation of installations (§ 75.41) has been expanded, in response to a suggestion, to indicate that the Commission will give a licensee prompt notice when its installation is no longer subject to the application of IAEA safeguards.

(17) *Expenses.* A commenter asked for the regulations to state the mechanism by which the IAEA is to "bear the cost" of certain expenses. The language concerned, in former § 75.47(a), was based upon Article 14 of the Agreement. The Commission understands that the reference to bearing the costs in question contemplates a reimbursement procedure. The proposed rule has accordingly been modified to substitute "reimburse a licensee for the cost" in place of "bear the cost." See new § 75.46. Should costs not be reimbursed with reasonable promptness, the Commission would, when deemed appropriate, seek to initiate action pursuant to § 75.46(d) and the dispute resolution articles of the Agreement.

(18) *Agency seals.* The section dealing with the breaking of IAEA seals (former § 75.46) has been deleted because there is no direct counterpart in the Agreement. This change is also responsive to concerns expressed by some licensees that the regulations could unduly interfere with operational requirements. The Facility Attachment will address matters relating to the integrity of IAEA seals and will take operational requirements into account.

(19) *Miscellaneous minor changes.* A number of editorial changes, though not substantive, merit brief comment. The term "IAEA" is used in place of "Agency" to avoid possible confusion that an agency of the United States government is being referred to. The explanation of "source data" in § 75.22 corresponds more closely to Article 90R of the Agreement. The former term "initial report" in § 75.32 is replaced by the more descriptive "initial inventory report." The additional statutory citations to sections 103 and 104 of the Atomic Energy Act provide a more explicit basis for including holders of construction permits within the scope of Part 75. Section 75.6(a), which specifies the NRC offices to whom specific communications are to be directed, has been changed so as to improve the

efficiency of administering the regulations.

Discussion of Other Comments

In addition to the matters referred to above, the Commission has considered carefully all the issues identified in the comments received. Some of these, although not resulting in changes to the proposed rule, merit additional discussion, as follows:

Comment: Licensees should not be required to maintain two documents pertaining to material accounting and control, one for domestic purposes and one for IAEA purposes.

Response: As reflected in the final rule, NRC recognizes the desirability of reconciling the requirements of 10 CFR Parts 70 and 75 insofar as practicable. To the extent that duplication can be eliminated, we shall continue to make every effort to do so. Suggestions from licensees, drawn from their actual experience, will be welcome at any time.

Comment: Schedules for implementation of the Agreement do not allow sufficient time for licensees to make necessary preparations.

Response: The regulations, especially as revised, provide as much time as is permitted under the applicable provisions of the Agreement and Subsidiary Arrangements. Licensees are encouraged to make advance preparations so that installation information can be submitted promptly when requested by the Commission and so that applicable procedures, including initial inventory reporting, can be implemented in a timely fashion.

Comment: Experimental and research facilities should not be designated for the application of IAEA safeguards.

Response: Such facilities are within the scope of the Agreement. So long as selections are made in conformity with the Agreement and Subsidiary Arrangements, the Commission would have no occasion to urge any particular course of action upon the IAEA. In any event, the question cannot be dealt with in the context of the present rulemaking action.

Comment: NRC should provide, in the rule, more specific guidance regarding the information that must be submitted as installation information and as routine reports.

Response: Detailed guidance has been prepared by the NRC staff and is now available. This guidance includes various new or revised forms, together with instructions for their preparation. These are being submitted to the General Accounting Office for clearance pursuant to 44 U.S.C. 3512. GAO will publish notice of submission, at which time affected persons will have the opportunity to comment. Written data, views, or arguments regarding the forms and instructions may also be submitted directly to the Commission. Submissions made within 21 days after GAO's publication, in the Federal Register, of a notice of receipt of NRC's report proposals will be considered by the Commission before the forms are placed into use.

Comment: The regulations should indicate that the licensee need not include information beyond what is necessary for the Agency to make knowledgeable determinations.

Response: The proposed language fails to express affirmatively, as it should, just what a licensee must do. The formulation in § 75.11(d)—that the information shall be sufficiently detailed to enable knowledgeable determinations to be made in the development of Facility Attachments—is preferable.

Comment: The requirement that licensees submit a description of proposed procedures (as opposed to existing systems) is nebulous, may be applied unduly broadly, and is unnecessary in view of after-the-fact reports of changes in the safeguards system.

Response: The language in question (§ 75.11(b)(4)) implements Article 43(d) of the Agreement and accordingly has not been changed. However, as the forms supplied under § 75.11(d) will make clear, the licensee will not be called upon to propose any new procedures for purposes of compliance with the provisions of Part 75. The "proposed procedures" which must be described are those which the licensee intends to institute, for other reasons, but which are not yet in effect. (Our prior comments on this subject are withdrawn, to the extent they are inconsistent with this statement.) The details of the procedures, as opposed to a description thereof, would be required only when necessary for knowledgeable determinations to be made in the development of Facility Attachments.

Comment: The regulations should provide for defining in the Facility Attachment the categories of information that will be treated as being particularly sensitive.

Response: The commenter's concern relates to the avoidance of inadvertent loss of the protection contemplated by § 75.12(b)(1). The suggested amendment would be inappropriate, however, because the determination of particular sensitivity is to be made by the Commission; it is not a subject to be covered in the Facility Attachment. Indeed, the information in question most likely would be supplied to the IAEA before the Facility Attachment even has been prepared. To minimize the risk that available protection is lost through inadvertence, the forms supplied by the Commission (§ 75.11(d)), or the accompanying letter of transmittal, will call attention to the provisions of § 75.12. This may be done by reference to that section, by reciting it, or by including appropriate questions reflecting its terms.

Comment: Licensees should not be required to provide access to IAEA inspectors, under § 75.42, except "during normal working hours."

Response: To limit inspections to "normal working hours" could seriously interfere with the IAEA's ability to carry out its responsibilities. "During normal working hours" seems appropriate for visits under § 75.13 to verify installation information. However, the IAEA's safeguards regime cannot be effective if inspections outside of normal working hours are subject to restraints. In view of the relevant provisions of the Agreement (e.g., Article 9 (c)(i)), the scheduling of inspections, in practice, probably will not result in serious inconvenience to the licensee.

Comment: The rule should state that IAEA equipment will not be agreed to by the United States if it impinges upon certain specified interests of the licensee (such as safety, protection of proprietary information, and product quality).

Response: The recommended criteria are not included in the rule because they will not be utilized in precisely the terms proposed. They are relevant, however, in determining whether or not, for example, the safeguards "avoid undue interference . . . in the operation of the facilities," the information to be provided is the "minimum" required by the IAEA. The standards that will be applied are those contained in the Agreement itself, as made clear by the reference thereto in § 75.42(e)(2).

Comment: Advance notification should not be required, under § 75.43, with respect to routine shipments, such as those recycling uranium hexafluoride heels.

Response: The issue will be considered in the development of Facility Attachments. Relief may be provided, where appropriate, by granting an exemption under § 75.3(a).

Supplemental Rules

The Commission has determined that the rules set forth in this notice will permit timely implementation of the Agreement. However, certain additional details of the process will need to be treated by the time the Agreement enters into force, or shortly thereafter. For example, IAEA representatives must be assured of access to some items of classified information; to meet this need,

appropriate rule changes, such as amendments to 10 CFR Parts 25 and 95, may be considered. Similarly, import and export regulations will be reviewed, with a view to adopting measures which will enable IAEA inspectors to discharge their functions without impediment. Any necessary rule changes will be made in accordance with established rulemaking procedures.

Notice

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, the following new Part 75 and the following amendments to Parts 40, 50, 70, 150, and 170 of Title 10, Chapter I, Code of Federal Regulations, are published as a document subject to codification.

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45 FR 73012
Published 11/4/80
Effective Date: Upon the US/IAEA Safeguards Agreement's entry into force and publication of notice thereof in the Federal Register
Effective 12/24/80 *

10 CFR Parts 70 and 75

Safeguards on Nuclear Material; Implementation of US/IAEA Agreement

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Commission is amending its regulations to make it clear that licensees required to submit inventory change reports pursuant to the US/IAEA Agreement are not additionally required to submit nuclear material transfer reports under NRC domestic safeguards regulations.

EFFECTIVE DATE: Upon the US/IAEA Safeguards Agreement's entry into force and publication of notice thereof in the **Federal Register**.

FOR FURTHER INFORMATION CONTACT: Mr. L. C. Solem, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, DC 20555 (301-443-5903).

SUPPLEMENTARY INFORMATION: On July 31, 1980 the Nuclear Regulatory Commission published in the **Federal Register** (45 FR 50705) a new Part 75 to Title 10 of the Code of Federal Regulations and amendments to 10 CFR Parts 40, 50, 70, 150 and 170 to implement the Agreement Between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America.

The Commission is amending 10 CFR Parts 70 and 75 to specify that licensees subject to 10 CFR 75.34, "Inventory change reports," are not required to provide the same information under 10 CFR 70.54, "Nuclear material transfer reports." The amendments are for purposes of clarification, as it was not intended that duplicate reports should be submitted.

Inasmuch as the amendments set forth below are of a minor and nonsubstantive nature, good cause exists for omitting notice of proposed rulemaking and public procedure thereon as unnecessary.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to Parts 70 and 75 of Title 10, Chapter I, Code of Federal Regulations, are published as a document subject to codification.

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46 FR 58281
Published 12/1/81
Effective 12/1/81

Licensing Requirements for the Storage of Spent Fuel in an Independent Spent Fuel Storage Installation; Minor Clarifying and Conforming Amendments

See Part 72 Statements of Consideration

➤**49 FR 19623**
Published 5/9/84
Effective 5/9/84

Information Collection Requirements; Display of OMB Control Numbers

See Part 0 Statements of Consideration

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*Amended 45 FR 84967

PART 81

STANDARD SPECIFICATIONS FOR THE GRANTING OF PATENT LICENSES

GENERAL PROVISIONS

Sec.
81.1 Purpose.
81.2 Definitions.
81.3 Communications.
81.4 Interpretations.
81.8 Reporting, recordkeeping, and application requirements: OMB approval not required.

NRC-OWNED INVENTIONS—PATENTS AND APPLICATIONS

81.10 Authority.
81.11 Policy.
81.13 Publication of NRC inventions available for licensing.
81.20 Nonexclusive licenses.
81.30 Limited exclusive licenses.
81.31 Selection of an exclusive licensee.
81.32 Terms of exclusive license grant.
81.35 Notices to public of exclusive licenses.
81.40 Contents of a license application.
81.50 Additional licenses.
81.51 Appeals.
81.52 Appeals board.
81.53 Review by the board.

AUTHORITY: This Part 81 issued under secs. 153, 156, 161g, 68 Stat. 945, 947, 948, as amended (42 U.S.C. 2183, 2186, 2201(g)). Sec. 201(f), Pub. L. 93-438, 88 Stat. 1243 (42 U.S.C. 5841).

GENERAL PROVISIONS

§ 81.1 Purpose.

The regulations of this part establish the standard specifications for the issuance of licenses to rights in inventions covered by patents or patent applications vested in the United States of America, as represented by or in the custody of the Commission and other patents in which the Commission has the right to accord or require the grant of licenses. 40 FR 8774

§ 81.2 Definitions.

As used in this part:

(a) "Act" means the Atomic Energy Act of 1954 (68 Stat. 619), including any amendments thereto;

(b) "Commission" means the Nuclear Regulatory Commission as established by the Act, or its duly authorized designee. The Assistant General Counsel for Patents is the designee of the Commission under this subpart;

(c) "NRC invention" means an invention covered by a U.S. patent or patent application that is vested in the Government of the United States, as represented by or in the custody of the Commission, or in which the Government of the United States of America, as represented by the Commission, has the right to accord or require the grant of licenses where such invention is designated by the Commission as appropriate for the grant of a nonexclusive or exclusive license; and

(d) "To the point of practical application" means to manufacture in the case of composition, machine or product, to practice in the case of a process, or to operate in the case of a machine, under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public. 38 FR 7318

(e) "NRC foreign invention" means an invention covered by a patent, or an application for a patent, issued by a government or authority of a country other than the United States that is vested in the Government of the United States, as represented by the Commission. 38 FR 8240

§ 81.3 Communications.

All communications concerning the regulations in this part, including applications for licenses, should be addressed to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Communications and reports may be delivered in person at the Commission's offices at 1717 H Street NW., Washington, D.C., or at 7920 Norfolk Avenue, Bethesda, Md. 40 FR 8774

§ 81.4 Interpretations.

Except as specifically authorized by the Commission in writing and by § 81.53, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission. 38 FR 7318

§ 81.8 Reporting, recordkeeping, and application requirements: OMB approval not required.

The information collection requirements contained in this part affect fewer than ten persons. Therefore, under section 3506(c)(5) of the Paperwork Reduction Act of 1980 (Pub. L. 96–511), OMB clearance is not required for these information collection requirements. 47 FR 13774

NRC-OWNED INVENTIONS—PATENTS AND APPLICATIONS

§ 81.10 Authority.

The regulations of this subpart governing the licensing or rights in NRC inventions are issued pursuant to the authority of the Commission under 42 U.S.C. 2186 (sec. 156 of the Act), 42 U.S.C. 2201g (sec. 161g. of the Act), and according to regulations issued by the Administrator of General Services pursuant to the Memorandum and Statement of Government Patent Policy issued by President Nixon on August 23, 1971 (36 FR 16887).

§ 81.11 Policy.

(a) The inventions covered by the U.S. patents and patent applications vested in the Government of the United States of America, as represented by or in the custody of the Commission, normally will best serve the public interest when they are developed to the point of practical application and made available to the public in the shortest time possible.

(b) The Commission generally prefers to make these inventions available to all interested parties through the granting of nonexclusive licenses. However, the Commission recognizes that to obtain commercial utilization of an invention, it may be necessary to grant an exclusive license for a limited period of time as an incentive for the investment of risk capital to achieve practical application of an invention. 38 FR 7318

(c) Whenever the Commission deems it appropriate to grant an exclusive license, the license will be negotiated on terms and conditions most favorable to the interests of the public and the Government. In considering the accord of such a license, due weight will be given to assisting small business and minority business enterprises, as well as economically depressed, low income and labor surplus areas within the United States.

(d) All licenses shall be by express written instruments. No license shall be granted or implied in an NRC invention except as provided for in these regulations or in patent rights articles under Commission procurement regulations, pursuant to the Act, or pursuant to any existing or future treaty or agreement between the United States and any foreign government or intergovernmental organization.

(e) No grant of a license under this subpart shall be construed to confer upon any licensee any immunity from the antitrust laws or from liability for patent misuse, and the acquisition and use of rights pursuant to this subpart shall not be immunized from the operation of State or Federal law by reason of the source of the grant.

(f) No grant of a license under this subpart shall be construed to confer any authorization under Chapters 4, 5, 6, 7, 8, 10, or any other chapter or section of the Act (42 U.S.C., sec. 2011-2296) for which separate application for a license must be made in accordance with the Act or other Commission regulations.

§ 81.13 Publication of NRC inventions available for licensing.

(a) The Commission will have published periodically a list of the NRC inventions available for licensing under this subpart in the FEDERAL REGISTER, the U.S. Patent Office Official Gazette, and in one other publication which it is determined will best serve the public interest and, where advisable, in other publications.

(b) Interested persons may obtain copies of such lists by communicating with the Commission, Washington, D.C. 20555. Copies of U.S. patents may be obtained from the U.S. Patent Office. Copies of U.S. patent application specifications, or microfiche reproductions thereof, may be secured at reasonable cost from the National Technical Information Service (NTIS) or from the U.S. Patent Office with Commission approval.

§ 81.20 Nonexclusive licenses.

38 FR 7318

(a) NRC inventions will normally be made available for the grant of nonexclusive licenses to responsible applicants who will practice the invention and make its benefits reasonably accessible to the public.

(1) The nonexclusive license will be revocable, at the option of the Commission, if the licensee does not comply with all the terms and conditions of the license agreement.

(2) The duration of the license shall be for a specified period and/or such additional period as may be provided for in the license agreement.

(3) The license shall require the licensee to bring the invention to the point of practical application within a period specified in the license agreement, or as the period may be extended by the Commission, and then to continue to make the benefits of the invention reasonably accessible to the public.

(4) The license shall be granted for all of the fields of use of the invention, or only such fields of use as may be specified in the license agreement, and throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia or in any lesser geographic portion thereof as may be specified in the license agreement.

(5) The licensee shall be required to submit periodic reports on his efforts to bring the invention to a point of practical application and the extent to which he continues to make the benefits of the invention reasonably accessible to the public. Unless otherwise specified in the license, such periodic reports will be required annually prior to the anniversary date of the grant of the license. The reports shall contain information within the licensee's knowledge, or which the licensee may acquire under normal business practices, pertaining to the commercial use being made of the invention, and other information which the Commission may determine to be pertinent to the licensing activity of the Commission and specified in the license agreement.

(6) Normally a royalty shall not be charged U.S. citizens and U.S. corporations for nonexclusive licenses on NRC inventions.

(7) The license may extend to wholly-owned subsidiaries of the licensee but shall be nonassignable, or otherwise nontransferable, without approval of the Commission.

(8) The Commission may revoke the license (i) for failure of the licensee to bring the invention to the point of practical application or to continue to make the benefits of the invention reasonably accessible to the public, (ii) if the licensee defaults in making any periodic report required by the license, or (iii) if the licensee commits any breach of any covenant or agreement therein contained, or (iv) if the licensee willfully makes, or has made, a false statement of a material fact or omitted a material fact in the license application submitted pursuant to § 81.40(a) or in any report required by the license agreement.

(9) The Commission may restrict the licensee to the particular fields of use and/or geographical areas in which the licensee has brought the invention to the point of practical application and continue to make the benefits of the invention reasonably accessible to the public.

38 FR 7318

(10) Before revoking or restricting any license granted pursuant to this subpart, the Commission shall mail to the licensee and any sublicensee of record, at the last address filed with the Commission, a written notice of the Commission's intention to revoke or restrict the license, and the licensee and any sublicensee shall be allowed thirty (30) days after the mailing of such notice, or within such period as may be granted by the Commission, to remedy any breach of any covenant or agreement as referred to in paragraph (a)(8)(iii) of this section, or to show cause why the license should not be revoked or restricted.

(11) Subject to the rights reserved to the Government in this section, the licensee shall be granted the nonexclusive rights to make, use, and/or sell the invention in accordanc with the terms and conditions specified in the license agreement.

(12) The license may be subject to such other terms and conditions as the Commission may deem in the public interest.

§ 81.30 Limited exclusive licenses.

(a) An NRC invention may be made available for the grant of a limited exclusive license provided that:

(1) The invention has been published as available for licensing pursuant to § 81.13 for a period of at least six (6) months.

(2) The Commission has determined that (i) the invention may be brought to the point of practical application in certain fields of use or in certain geographical locations by exclusive licensing, (ii) the desired practical application has not been achieved under any nonexclusive license granted on the invention, and (iii) the desired practical application is not likely to be achieved expeditiously in the public interest under a nonexclusive license or as a result of further Government-funded research or development.

(3) Notice of the selection of a prospective licensee to be granted a limited exclusive license of a specified duration and scope shall have been transmitted to the Attorney General of the United States and shall have been published for at least sixty (60) days in the FEDERAL REGISTER with a statement advising of the rights of license applicants or third parties to apply for nonexclusive licenses or bring information to the attention of the Commission under the next paragraph; and

(4) After expiration of the period in paragraph (a)(3) of this section, the Commission has determined (i) that no applicant for a nonexclusive license has brought or will bring the invention to the point of practical application as specified in the prospective exclusive license within a reasonable period under a nonexclusive license, and (ii) that the granting of the license would be in the public interest and not be inconsistent with the Act after consideration of all the facts and any written evidence and argument which third parties may present to the Commission within sixty (60) days of the publication of the notices of the selection of the licensee under paragraph (a)(3) of this section.

38 FR 7318

(5) The Commission shall record and make available for public inspection, upon request, all decisions and the basis thereof under this section.

§ 81.31 Selection of an exclusive licensee.

An exclusive licensee will be selected by the Commission on bases consistent with the policy set forth in § 81.11 of this subpart in accordance with the procedures herein, based upon the information supplied to the Commission in a license application under § 81.40. Consideration will be given to (a) the capabilities of the applicant to further the technical and market development of the invention to bring the same to the point of practical application, (b) the applicant's plan to undertake development of the invention, (c) the projected impact on competition, (d) the benefit to the Government and the public, as well as (e) assistance to small business and minority business enterprises and economically depressed, low income and labor surplus areas, and (f) whether the applicant is a U.S. citizen or corporation.

§ 81.32 Terms of exclusive license grant.

(a) NRC inventions may be made available for the grant of limited exclusive licenses to responsible applicants who will bring the invention to the point of practical application and make its benefits reasonably accessible to the public.

(1) The license may be granted for all

or less than all fields of use of the invention, and throughout the United States of America, its territories and possessions, Puerto Rico, and the District of Columbia, or any lesser geographical portion thereof.

(2) The duration of the license will be negotiated and shall include (i) a period of exclusivity specified in the license, which shall be related to the period necessary to provide a reasonable incentive for the licensee to invest the necessary risk capital to bring the invention to the point of practical application and which shall not exceed 5 years or be extended unless the Commission determines on the basis of a written submission supported by a factual showing that a longer period is reasonably necessary to permit the licensee to enter the market and recoup his investment in bringing the invention to the point of practical application; and (ii) a terminal portion, sufficient to make the invention reasonably available for the granting of nonexclusive licenses under § 81.20, during which the licensee may have a nonexclusive license if the licensee continues to make the invention reasonably accessible to the public.

(3) The license shall require the licensee to bring the invention to the point of practical application within a period specified in the license agreement, or, subject to the approval of the Commission, within a longer period, and then to continue to make the benefits of the invention reasonably accessible to the public.

(4) The license shall require the licensee to expand a specified minimum sum of money and/or to take other specified action, within indicated periods as specified in the license, in an effort to bring the invention to the point of practical application. Reasonable royalties shall be charged by the Commission, as specified in the license agreement, unless the Commission determines that it would not be in the public interest to charge royalties.

38 FR 7318

(5) The license shall be subject to an irrevocable, royalty-free right of the Government of the United States to practice and have practiced the invention by or on behalf of the Government of the United States and on behalf of any foreign Government or intergovernmental organization pursuant to any existing or future treaty or agreement with the United States.

(6) The license shall reserve to the Commission the right to require the licensee to grant sublicenses to responsible applicants to practice the invention on terms that are reasonable under the circumstances, (i) to the extent that the invention is required for public use by governmental regulations, or (ii) as may be necessary to fulfill health or safety needs, or (iii) if the invention is useful in the production or utilization of special nuclear material or atomic energy and the licensing of such invention is of importance to effectuate the policies and purposes of the Act, (iv) for other public purposes as stipulated in the license agreement. In the event that the licensee and the Commission cannot agree upon reasonable terms for such sublicenses, the terms, including a reasonable royalty, may be fixed pursuant to the procedure set forth in section 157(c) of the Act.

(7) Subject to the right reserved to the Government in paragraph (a) (5) and (6) of this section, the licensee shall be granted the exclusive right to make, use, and/or sell the invention in accordance with the terms and conditions specified in the license agreement.

(8) The license may extend to wholly owned subsidiaries of the licensee but shall be nonassignable and otherwise nontransferable without approval of the Commission, except assignment may be made, upon notice to the Commission, to successors of that part of the licensee's business to which the invention pertains.

(9) An exclusive licensee may grant sublicenses under his license only with the approval of the Commission. Any sublicense or assignment granted by an exclusive licensee shall be subject to the terms and conditions of the exclusive license, including the rights retained by the Government thereunder, and a copy of each such sublicense or assignment shall be furnished to the Commission.

(10) The license shall require the licensee to submit periodic reports on his efforts to achieve practical application of the invention and the extent to which he continues to make the benefits of the invention reasonably accessible to the public. Unless otherwise specified in the license, such reports will be required annually on the anniversary date of the grant of the license. The report shall contain information within the licensee's knowledge, or which the licensee may acquire under normal business practices, pertaining to the commercial use being made of the invention, and other information which the Commission may determine to be pertinent to the licensing activity of the Commission as is specified in the license agreement.

38 FR 7318

(11) The Commission may modify or revoke the license (i) for failure of the licensee to bring the invention to the point of practical application within the period specified in the license agreement or to continue to make the benefits of the invention reasonably accessible to the public; (ii) if the licensee fails to expend the minimum sum of money or to take any other action specified in the license agreement within the periods specified in the license agreement in an effort to bring the invention to the point of practical application; (iii) if the licensee defaults in making any payments or periodic reports required by the license; or (iv) if the licensee commits any breach of any covenant or agreement therein contained; or (v) if the licensee willfully makes, or has made, a false statement of a material fact or willfully omitted a material fact in the license application submitted pursuant to § 81.40 or in any report required by the license agreement.

(12) Before modifying or revoking any license granted pursuant to this subpart for any cause, the Commission shall mail to the licensee and any sublicensee of record at the last address filed with the Commission a written notice of the Commission's intention to modify or revoke the license, and the licensee and any sublicensee shall be allowed thirty (30) days after the mailing of such notice, or within such period as may be granted by the Commission, to remedy any breach of any covenant or agreement referred to in paragraph (a) (11) (iv) of this section or to show cause why the license should not be modified or revoked.

(13) An exclusive licensee shall be granted the right to sue at his own expense any party who infringes the rights set forth in his license and covered by the licensed patent. The licensee may join the Government of the United States, upon consent of the Attorney General, as a party complainant in such suit, but without expense to the Government and the licensee shall pay costs and any final judgment or decree that may be rendered against the Government in such suit. The Government shall have an absolute right to intervene in any such suit at its own expense. The licensee shall be obligated to furnish promptly to the Government, upon request, copies of all pleadings and other papers filed in any such suit and of evidence adduced in proceedings relating to the licensed patent, including, but not limited to, negotiations or settlements and agreements settling claims by a licensee based on the licensed patent, and all other books, documents, papers, and records pertaining to such suit. If, as a result of any such litigation, the patent shall be declared invalid, the licensee shall have the right to surrender his license and be relieved from any further obligation thereunder.

(14) A licensee may surrender his license at any time prior to termination of the license upon notice thereof to the Commission, and upon approval of the Commission, but the licensee shall not be relieved of the obligations thereunder without specific approval of the Commission.

38 FR 7318

(15) The license may be subject to such other terms and conditions as the Commission may deem in the public interest.

§ 81.35 Notices to public of exclusive licenses.

The Commission will have published in the FEDERAL REGISTER notices of the granting, revocation, or modification in duration and/or scope, of limited exclusive licenses under these regulations. Such notices shall identify the invention and shall include, directly, or by reference to previous notice(s) in the FEDERAL REGISTER pursuant to § 81.13 or § 81.30 (a) (3) the following:

(a) Identification of the licensee.

(b) Duration and scope of the exclusive license.

(c) That such a license is being granted or revoked, or the nature of the modification of the license.

(d) The effective date of the grant, modification, or revocation.

§ 81.40 Contents of a license application.

(a) *Nonexclusive license application.* An application for a nonexclusive license under an NRC invention should be accompanied by a fee of ten dollars ($10) for processing the application and must include the following information:

(1) Identification of the invention for which the license is desired, including

the patent application serial number or the patent number, title, and date, if known, and any other identification of the invention;

(2) Name and address of the person, company, or organization applying for a license and the citizenship or State of incorporation thereof;

(3) Name and address of a representative of applicant to whom correspondence should be sent and any notices served;

(4) Nature and type of applicant's business;

(5) Identification of the source of applicant's information concerning the availability of a license on the invention;

(6) Purpose for which the license is desired, and a brief description of applicant's plan to achieve that purpose;

(7) A statement of the field and the field(s) of use in which applicant intends to practice the invention; and

(8) A statement of the geographical area(s) in which the applicant will practice the invention.

(b) *Exclusive license application.* An application for a limited exclusive license should include, in addition to the information indicated above for a nonexclusive license application, the following information:

(1) Applicant's status, if any, in any one or more of the following categories:

(i) Small business firm;

(ii) Minority business enterprise;

(iii) Location in a surplus labor area;

(iv) Location in a low income area; and

(v) Location in an economically depressed area.

(2) A statement describing the time, expenditure, and other acts which the applicant considers necessary to bring the invention to a point of practical application, and the applicant's offer to invest that time and sum, and to perform such acts, if the license is granted.

(3) A statement of applicant's capability to undertake the development and/or marketing required to bring the invention to the point of practical application.

(4) A statement that contains applicant's best knowledge of the extent to which the invention is being practiced by private industry and the Government; and

(5) Any other facts which the applicant believes to show it to be in the public interest for the Commission to grant an exclusive license rather than a nonexclusive license and that such exclusive license should be granted to the applicant.

§ 81.50 Additional licenses.

Subject to any outstanding licenses, nothing in this subpart shall preclude the Commission from granting additional nonexclusive and limited exclusive licenses for inventions covered by this subpart when the Commission determines that to do so would provide for an equitable exchange of patent rights. The following exemplify circumstances wherein such licenses may be granted:

(a) In consideration of the settlement of interferences;

(b) In consideration of a release of any claims;

(c) In exchange for or as part of the consideration for a license under adversely held patent(s); or

(d) In consideration for the settlement or resolution of any proceeding under the Act or other statute.

§ 81.51 Appeals.

An applicant for a license, a licensee, or a third party who has participated under § 81.30(a)(3) shall have the right to appeal in accordance with the appeal procedures of this subpart any decision of the Commission concerning the grant, denial, interpretation, modification, or revocation of a license under this subpart, by filing a notice of appeal with the Commission within thirty (30) days from the date of the mailing of a notice by the Commission of the decision or, if no such notice to the person desiring to appeal, then thirty (30) days from publication in the FEDERAL REGISTER of the facts which show such a decision. The notice of appeal shall specify the portion of the decision from which the appeal is taken, and the reasons why the decision is erroneous. A statement of fact and argument in the form of a brief in support of the appeal may be submitted with the notice of appeal or, if the appellant prefers, may be filed with the Commission within fifteen (15) days after the filing of the notice of appeal. If a statement of fact and argument in the form of a brief in support of the appeal is not submitted with the notice, the appellant shall state in the notice whether such a statement of fact and argument in the form of a brief in support of the appeal will be filed.

38 FR 7318

§ 81.52 Appeals Board.

(a) *NRC Invention Licensing Appeal Board.* Upon notice of an appeal in accordance with § 81.51, the Executive Director for Operations of the Nuclear Regulatory Commission will designate within thirty (30) days an Invention Licensing Appeal Board (hereinafter, Board) to decide such an appeal.

(b) *Composition of the Board.* The Invention Licensing Appeal Board shall consist of three members having equal voting power, one of whom will be designated as Chairman.

(c) *Notice of designation of the Board.* The Executive Director for Operations of the Nuclear Regulatory Commission will advise the appellant of the designation of the Board, its composition, and Chairman.

§ 81.53 Review by the Board.

(a) The Board shall determine the propriety of any decision concerning the grant, denial, interpretation, modification, or revocation of a license according to the policy and criteria of these regulations, including § 81.11, on the record and evidence submitted by an appellant and the Commission to the Board.

(b) A hearing may be requested by the Commission or an appellant within fifteen (15) days after the notice set forth under § 81.52(c). An appellant and the Commission shall be given a minimum of fifteen (15) days' notice of the time and place of a hearing. The Commission and the appellant shall have an opportunity to make oral arguments before the Board.

(c) The Board shall make findings of fact and reach a conclusion with respect to the propriety of the decision of the Commission, which conclusion shall constitute the final action of the commission.

40 FR 8774

§§ 81.61-81.83 [Deleted 40 FR 8774.]

UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 81

STANDARD SPECIFICATIONS FOR THE GRANTING OF PATENT LICENSES

STATEMENTS OF CONSIDERATION

38 FR 7318
Published 3/20/73
Effective 3/20/73

AEC-Owned Inventions

This revision of 10 CFR Part 81 of the Atomic Energy Commission regulations sets forth the standard specifications for the issuance of licenses on inventions owned by the AEC, and is issued pursuant to sections 156 and 161g. of the Atomic Energy Act of 1954, as amended, and the Presidential Patent Policy Statement of August 23, 1971. It is promulgated to implement the General Services Administration regulations, 41 CFR Part 101-4, published February 5, 1973, which provide for the licensing of Government-owned inventions for the purpose of enhancing their utilization.

38 FR 8240
Published 3/30/73
Effective 3/30/73

Licensing of AEC-Owned Inventions

This revision of the Atomic Energy Commission Regulations Part 81 sets forth the standard specifications for the issuance of licenses on foreign patents and patent applications owned by the AEC, and is issued pursuant to sections 156 and 161g, of the Atomic Energy Act of 1954, as amended. It is promulgated for the purpose of enhancing the utilization by industry of AEC-owned foreign patents in the public interest.

40 FR 8774
Published 3/3/75
Effective 3/3/75

Energy Reorganization Act; Revisions to Chapter 1 to Reflect Organizational and Procedural Changes

See Part 2 Statements of Consideration.

47 FR 13774
Published 4/1/82
Effective 4/1/82

Reporting, Recordkeeping, and Application Requirements

See part 60 Statements of Consideration

PART 95

SECURITY FACILITY APPROVAL AND SAFEGUARDING OF NATIONAL SECURITY INFORMATION AND RESTRICTED DATA

Sec.
95.1 Purpose.
95.3 Scope.
95.5 Definitions.
95.7 Interpretations.
95.8 Information collection requirements: OMB approval.
95.9 Communications.
95.11 Specific exemptions.
95.13 Records maintenance.

Physical Security

95.15 Approval for processing licensees and others for security facility approval.
95.17 Processing security facility approval.
95.19 Grant, denial or suspension of security facility approval.
95.21 Cancellation of requests for security facility approval.
95.23 Termination of security facility approval.
95.25 Protection of national security information and restricted data in storage.
95.27 Protection while in use.
95.29 Establishment of security areas.
95.31 Protective personnel.
95.33 Security education.

Control of Information

95.35 Access to national security information and/or restricted data.
95.37 Classification and preparation of documents.
95.39 External transmission of documents and material.
95.41 Accountability for secret matter.
95.43 Authority to reproduce.
95.45 Changes in classification.
95.47 Destruction of matter containing national security information and/or restricted data.
95.49 Security of automatic data processing (ADP) systems.
95.51 Retrieval of classified matter following suspension or revocation of access authorization.
95.53 Termination, suspension or revocation of security facility approval.
95.55 Continued applicability of the regulations in this part.
95.57 Reports.
95.59 Inspections.

Violations

95.61 Violations.
Appendix A—Classification guide for safeguards information.

48 FR 24318 **Authority**: Secs. 145, 161, 68 Stat. 942, 948, as amended (42 U.S.C. 2165, 2201); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841); E.O. 10865, as amended, 3 CFR 1959–1963 COMP., p. 398 (50 U.S.C. 401, note); E.O. 12356, 47 FR 14874, April 6, 1982.

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 95.13, 95.15(a), 95.25, 95.27, 95.29(b), 95.31, 95.33, 95.35, 95.37, 95.39, 95.41, 95.43, 95.45, 95.47, 95.51, 95.53, and 95.57 are also issued under sec. 161i, 68 Stat. 949, as amended (42 U.S.C. 2201(i))

§ 95.1 Purpose.

45 FR 14476 The regulations in this part establish procedures for obtaining security facility approval and for safeguarding Secret and Confidential National Security Information and Restricted Data received or developed in conjunction with activities licensed or regulated by the Commission. This Part does not apply to Top Secret information since no such information may be forwarded to licensees or others within the scope of an NRC license.

§ 95.3 Scope.

The regulations in this part apply to licensees and others regulated by the Commission who may require access to National Security Information and/or Restricted Data used, processed, stored, reproduced, transmitted or handled in connection with a license or application for a license.

§ 95.5 Definitions.

47 FR 38675 **"Access authorization" means an administrative determination that an individual (including a consultant) who is employed by or an applicant for employment with the NRC, NRC contractors, agents, and licensees of the NRC, or other person designated by the Executive Director for Operations, is eligible for a security clearance for access to Restricted Data or national security information.**

45 FR 14476 "Act" means the Atomic Energy Act of 1954 (68 Stat. 919), as amended.

"Authorized Classifier" means an individual authorized in writing by appropriate NRC authority to classify, declassify or downgrade the classification of information, work projects, documents, and materials.

"Classified Mail Address" means a mail address established for each facility approved by the NRC, to which all National Security Information or Restricted Data for the facility is to be sent.

48 FR 24318 Classified Matter" means documents or material containing classified information.

45 FR 14476 "Combination Lock" means a three position, manipulation resistant, dial type lock bearing an Underwriters' Laboratories, Inc. certification that it is a Group 1 or Group IR unit.

"Commission" means the Nuclear Regulatory Commission or its duly authorized representatives.

"Infraction" means an act or omission involving failure to comply with NRC security regulations, and may include a violation of law.

"Intrusion Alarm" means a tamper-indicating electrical, electro-mechanical, electro-optical, electronic or similar device which will detect unauthorized intrusion by an individual into a building, protected area, security area, vital area, or material access area, and alert guards or watchmen by means of actuated visible and audible signals.

"L" access authorization means an access authorization granted by the Commission which is normally based on a National Agency Check (NAC) or NAC and Inquiry (NACI) conducted by the Office of Personnel Management.

46 FR 58281 **"License" means a license issued pursuant to 10 CFR Part 50, 70, or 72.**

45 FR 14476 "Material" means chemical substance without regard to form; fabricated or processed item; or assembly, machinery or equipment.

"Matter" means documents or material.

48 FR 24318 **"National Security" means the national defense or foreign relations of the United States.**

"National Security Information" means information that has been determined pursuant to Executive Order 12356 or any predecessor order to require protection against unauthorized disclosure and that is so designated.

Government and that has been determined pursuant to Executive Order 12065 or prior orders to require protection against unauthorized disclosure and is so designated.

"Need-to-know" means a determination, by persons having responsibility for classified information or matter, that a proposed recipient's access to such classified information or matter is necessary in the performance of his official, contractual or licensee duties of employment under the cognizance of the Commission.

"Person" means (1) any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, government agency other than the Commission or the Department of Energy (DOE), except that the DOE shall be considered a person to the extent that its facilities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 and sections 104, 105 and 202 of the Uranium Mill Tailings Radiation Control Act of 1978, any State or any political subdivision of, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent or agency of the foregoing.

45 FR 14476

"Protective Personnel" means guards or watchmen as defined in 10 CFR Part 73 or other persons designated responsibility for the protection of classified matter.

"Q" access authorization means an access authorization granted by the Commission based on a full field investigation conducted by the Office of Personnel Management, the Federal Bureau of Investigation, or other U.S. Government agency which conducts personnel security investigations.

"Restricted Data" means all data concerning design, manufacture or utilization of atomic weapons, the production of special nuclear material, or the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category pursuant to Section 142 of the Act.

"Security Area" means a physically defined space containing classified matter and subject to physical protection and personnel access controls.

"Security Container" includes any of the following repositories: (1) A security filing cabinet—one that bears a Test Certification Label on the side of the locking drawer, inside wall adjacent to the locking drawer, or interior door plate, and is marked, "General Services Administration Approved Security Container" on the exterior of the top drawer or door.

(2) A safe—burglar-resistive cabinet or chest which bears a label of the Underwriters' Laboratories, Inc. certifying the unit to be a TL-15, TL-30, or TRTL-30, and has a body fabricated of not less than 1 inch steel and a door fabricated of not less than 1½ inches steel exclusive of the combination lock and bolt work; or bears a Test Certification Label on the inside of the door and is marked "General Services Administration Approved Security Container" and has a body of steel at least ½" thick, and a combination locked steel door at least 1" thick, exclusive of bolt work and locking devices.

(3) A vault—a windowless enclosure constructed with walls, floor, roof and door(s) that will delay penetration sufficient to enable the arrival of emergency response forces capable of preventing theft, diversion, damage or compromise of classified information or matter, when delay time is assessed in conjunction with detection and communication subsystems of the physical protection system.

(4) A vault-type room—a room which has a combination lock door and is protected by an intrusion alarm system which alarms upon the unauthorized penetration of a person anywhere into the room.

45 FR 14476

(5) Other repositories which in the judgment of the Division of Security would provide comparable physical protection.

"Security Facility "—any facility which has been approved by NRC for using, processing, storing, reproducing, transmitting or handling classified matter.

"Security Facility Approval" means that a determination has been made by the NRC that a facility is eligible to use, process, store, reproduce, transmit or handle classified matter.

"Security Survey" is an examination by an NRC representative of all devices, equipment, and procedures employed at a security facility to safeguard classified matter.

§ 95.7 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

49FR19623

§ 95.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150-0047.

49 FR 19623

(b) The approved information collection requirements contained in this part appear in §§ 95.11, 95.15, 95.21, 95.25, 95.33, 95.36, 95.37, 95.41, 95.45, 95.47, 95.53, and 95.57.

§ 95.9 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part should be addressed to the Director, Division of Security, Nuclear Regulatory Commission, Washington, DC 20555.

§ 95.11 Specific exemptions.

The Commission may, upon application of any interested party, grant an exemption from the requirements of Part 95. Exemptions will be granted only if they are authorized by law and will not constitute an undue risk to the common defense and security. Documentation related to the request, notification and processing of an exemption shall be maintained for two years beyond the period covered by the exemption.

45 FR 14476

§ 95.13 Records maintenance.

Each licensee or organization granted security facility approval under this part shall maintain such records as prescribed within the part. These records shall be subject to review and inspection by NRC representatives during security surveys.

Physical Security

§ 95.15 Approval for processing licensees and others for security facility approval.

(a) A licensee, or other person who has a need to use, process, store, reproduce, transmit or handle National Security Information and/or Restricted Data at any location in connection with Commission related activities shall promptly request an NRC security facility approval.

(b) The request shall include the following information: The name of the facility; the location of the facility; a security plan outlining the facility's proposed security procedures and controls for the protection of National Security Information and/or Restricted Data; a floor plan of the area in which the matter is to be used, processed, stored, reproduced, transmitted or handled.

(c) NRC will promptly inform applicants of the acceptability of the request for further processing and will notify the licensee or other person of their decision in writing.

(d) A licensee or other person may make a change in an NRC approved facility security plan for the safeguarding of National Security Information and/or Restricted Data without prior NRC approval, if the change does not decrease the effectiveness of the plan. A report containing a description of each change must be furnished to the NRC, Director of Security, Office of Administration, Washington, DC 20555, with a copy to the Regional Administrator of the appropriate NRC Regional Office listed in Appendix A, 10 CFR Part 73, within two months after the change.

48 FR 24318

§ 95.17 Processing security facility approval.

Following receipt of an acceptable request for security facility approval, NRC will perform an initial security survey of the licensee or other facility to determine that granting a security facility approval would be consistent with the national security. If NRC makes such a determination, security facility approval will be granted. However, NRC may determine that granting an interim security facility approval prior to an initial security survey would be consistent with the national security. If NRC makes such a determination, interim security facility approval will be granted and a security survey performed as soon thereafter as practical. As a result of the security survey, NRC may grant a security facility approval or may continue or terminate interim security facility approval pending compliance with survey recommendations or until an exemption is granted pursuant to § 95.11.

47 FR 9194

§ 95.19 Grant, denial, or suspension of security facility approval.

Notification of the Commission's grant, denial, or suspension of security facility approval will be furnished in writing, or orally with written confirmation. This information will also be furnished to representatives of NRC, NRC licensees, or other Federal agencies, having a need to transmit National Security Information and/or Restricted Data to the licensee or other person.

45 FR 14476

§ 95.21 Cancellation of requests for security facility approval.

When a request for security facility approval is to be withdrawn or cancelled, the NRC Division of Security will be notified by the requestor immediately by telephone so that processing for this approval may be terminated. The notification will identify the full name of the individual requesting discontinuance, his position with the facility, and the full identification of the facility. Such telephone advice shall be confirmed promptly in writing.

§ 95.23 Termination of security facility approval.

Security facility approval will be terminated when:

(a) There is no longer a need to use, process, store, reproduce, transmit or handle classified matter at the facility; or

(b) The Commission makes a determination that continued security facility approval is not in the interest of national security.

In such cases the licensee or other person will be notified in writing of the determination and the procedures outlined in § 95.53 will apply.

§ 95.25 Protection of national security information and restricted data in storage.

(a) Protection of Secret Matter:

(1) Secret documents while unattended or not in actual use shall be stored in locked security containers protected by an NRC approved intrusion alarm or by protective personnel.

(2) Protective personnel must be used where National Security Information or Restricted Data cannot be adequately safeguarded during working hours by employees or during non-working hours by an intrusion alarm system. In either case, protective personnel must be capable of responding within fifteen minutes.

(3) When protective personnel are used, physical checks of security containers shall be made as soon as possible after the close of each normal workday and at least once every eight hours thereafter during non-working hours. Records of such physical checks shall be maintained for one year.

(b) Confidential matter while unattended or not in use shall be stored:

(1) Under any of the methods used for Secret matter as set forth in paragraph (a) of this section, or

(2) In a locked security container within a locked room or building.

(c) Classified lock combinations:

(1) Knowledge of lock combinations protecting classified information shall be limited to a minimum number of personnel necessary for operating purposes, with a need-to-know, and possessing the highest access authorization of the matter stored or authorized to be stored in the container. Records identifying personnel having knowledge of such lock combinations shall be maintained until superseded by a new form or list, or until the container is removed from service.

(2) Combinations shall be changed:

(i) Whenever the container is placed in use.

(ii) Whenever a person knowing the combination no longer requires access to a combination. This may be as a result of a change in duties or location in the licensee's or licensee related organization or termination of employment with the licensee or other organization.

(iii) Whenever a combination has been subjected to possible compromise.

(iv) Whenever the container is taken out of service, and

(v) In any event at least once every year.

(d) Records of combinations: Records of combinations shall be classified, marked and safeguarded in a manner appropriate for the highest classification of the matter authorized to be stored in the security container.

45 FR 14476

(e) Selections of combinations: Each combination must be randomly selected and require the use of at least three different numbers. In selecting combinations, multiples, simple arithmetical ascending or descending series, telephone numbers, social security numbers, car license numbers, and calendar dates such as birthdates and anniversaries, shall be avoided.

(f) Cautions regarding combinations:

(1) When closing a combination lock, the dial must be turned at least four times in the same direction.

(2) Combinations shall be changed only by persons authorized access to Secret or Confidential National Security Information and/or Restricted Data depending upon the matter authorized to be stored in the security container.

45 FR 14476

(g) Posted information. (1) The names, addresses, and telephone numbers of the custodian and all alternates having knowledge of the combination shall be posted on the outside or inside of each security container.

47 FR 9194

(2) A record of the date of last change of the combination of each security container shall be maintained as long as the container is in service.

(3) A monitor sheet shall be posted on each security container approved for the storage of classified matter. The monitor sheet shall contain space for the date and initials of the persons locking and checking the container to assure it is secured. It shall be initialed at the end of each work day by the person locking the container and, where feasible, by another person who can physically double check the lock, locked drawer, or door and all exposed drawers to assure proper securing of the container. Such monitor sheets shall be maintained for one month.

(h) Unattended security container found opened: In the event that an unattended security container housing classified matter is found unlocked, the custodian or an alternate shall be notified immediately. The container shall be secured by protective personnel and the contents shall be inventoried as soon as possible but not later than the next workday. A report reflecting all actions taken shall be submitted to the responsible Regional Office (see Appendix A, 10 CFR Part 73 for addresses) with an information copy to the NRC Division of Security. Records pertaining to such matters shall be retained for two years after completion of final corrective action.

(i) Keys to locks used to secure gates or doors in security area perimeters shall be issued only to persons authorized access to the matter or to the area. Files relating to accountability for keys issued shall be maintained for 3 years after the key has been turned in.

45 FR 14476

§ 95.27 Protection while in use.

While in use, matter containing National Security Information or Restricted Data shall be under the direct control of an appropriately authorized individual to preclude physical, audio and visual access by persons who do not have the prescribed access authorization or other written Division of Security disclosure authorization.

46 FR 13203

§ 95.29 Establishment of security areas.

(a) If, because of its nature, sensitivity or importance, matter containing National Security Information or Restricted Data cannot otherwise be effectively controlled in accordance with the provisions of §§ 95.25 and 95.27, a security area shall be established to protect such matter.

(b) The following measures shall apply to security areas:

(1) Security areas shall be separated from adjacent areas by a physical barrier designed to prevent unauthorized access (physical, audio and visual) into such areas.

(2) Controls shall be established to prevent unauthorized access to and removal of classified matter.

45 FR 14476

(3) Access to classified matter shall be limited to persons who possess appropriate access authorization or other written Division of Security disclosure authorization and who require access in the performance of their official duties or contractual obligations.

46 FR 13203

(4) Persons without appropriate access authorization for the area visited shall be escorted by an appropriate NRC access authorized person at all times while within security areas.

(5) Each individual authorized to enter a security area shall be issued a distinctive form of identification (e.g., badge) when the number of employees assigned to the area exceeds thirty per shift.

(6) During nonworking hours, admittance shall be controlled by protective personnel. Protective personnel shall conduct patrols during nonworking hours at least every 8 hours and more frequently if necessary to maintain a commensurate level of protection. Entrances shall be continuously monitored by protective personnel or by an approved alarm system.

45 FR 14476

§ 95.31 Protective personnel.

Whenever protective personnel are used to protect National Security Information and/or Restricted Data they shall:

(a) Possess an "L" access authorization (or Department of Defense or DOE equivalent) if the licensee or other person possesses information classified Confidential National Security Information, Confidential Restricted Data or Secret National Security Information.

(b) Possess a "Q" access authorization (or Department of Defense or DOE equivalent) if the licensee or other person possesses Secret Restricted Data and the protective personnel require access as part of their regular duties.

45 FR 14476

§ 95.33 Security education.

A security education program shall be established and maintained by the licensee or license related organization which employs individuals possessing NRC personnel security access authorization under Part 25. The program shall include consideration and coverage of personnel access authorization requirements, the physical security features of the facilities, the classified nature of the work and the classification and sensitivity of the information. Each security education program shall provide for the security orientation and continuing security education of employees, and for the appropriate security instruction of terminating employees. Records reflecting an individual's initial and refresher security orientations and security termination shall be maintained for one year after termination of the individual's access authorization.

Control of Information

§ 95.35 Access to national security information and/or restricted data.

(a) Except as the Commission may authorize, no person subject to the regulations in this Part may receive or may permit any individual to have access to Secret or Confidential National Security Information or Restricted Data unless the individual has:

(1) A "Q" access authorization which permits an individual access to (i) Secret and Confidential Restricted Data and (ii) Secret and Confidential National Security Information which includes intelligence information, CRYPTO (i.e., cryptographic information) or other classified communications security (COMSEC) information, or

An "L" access authorization which permits an individual access to Confidential Restricted Data and Secret and Confidential National Security Information other than that noted in paragraph (a)(1) of this section.

(2) An established "need-to-know" for the information. (See Definitions, § 95.5).

(3) NRC approved storage facilities if classified documents or material are to be transmitted to the individual.

(b) National Security Information or Restricted Data shall not be released by a licensee or other person to any personnel other than properly access authorized Commission licensee employees, or other individuals authorized access by the Commission.

(c) Access to National Security Information at NRC-licensed facilities by authorized representatives of IAEA is permitted in accordance with § 95.36 of this Part.

46 FR 13203

§ 95.36 Access by representatives of the International Atomic Energy Agency.

(a) Based upon written disclosure authorization from the Division of Security that an individual is an authorized representative of the International Atomic Energy Agency (IAEA), and that the individual is authorized to make visits or inspections in accordance with the US/IAEA Safeguards Agreement, a licensee will permit the individual (upon presentation of the credentials specified in § 75.7 of this chapter and any other credentials identified in the disclosure authorization) to have access to National Security Information (NSI) which is relevant to the conduct of a visit or inspection. A disclosure authorization under this section does not authorize a licensee to provide access to Restricted Data.

(b) For purposes of this section, NSI is relevant to the conduct of a visit or inspection if:

(1) In the case of a visit, this information is needed to verify information according to § 75.13, or

(2) In the case of an inspection, the information is information to which an inspector is entitled to have access under § 75.42.

46 FR 13203

(c) In accordance with the specific disclosure authorization provided by the Division of Security, licensees are authorized to release (i.e., transfer possession of) copies of documents which contain National Security Information directly to IAEA inspectors and other representatives officially designated by IAEA to request and receive classified National Security Information documents. These documents shall be marked specifically for release to IAEA in accordance with instructions contained in NRC's disclosure authorization letter. Licensees may also forward these

48 FR 24318

documents through NRC to IAEA representatives at IAEA headquarters in accordance with the NRC disclosure authorization. Licensees are not authorized to reproduce documents containing National Security Information except as provided in § 95.43 of this part.

48 FR 24318

(d) Records regarding these visits and inspections shall be maintained for five years beyond the date of the visit or inspection. These records shall specifically identify each document which has been released to an authorized representative and shall indicate the date of such release. These records shall also identify (in such detail as the Division of Security, by letter, may require) the categories of documents to which the authorized representative has had access and the date of such access. A licensee shall also retain Division of Security disclosure authorizations for five years beyond the date of any visit or inspection when access to classified information was permitted.

(e) Licensees shall take such measures as may be necessary to preclude access to classified information to which IAEA representatives are not authorized access.

§ 95.37 Classification and preparation of documents.

(a) *Classification.* National Security Information and Restricted Data generated or possessed by a licensee or other person must be appropriately marked. Such marking of information shall be in compliance with NRC classification guidance found in Appendix A of this part. If a person or facility generates or possesses information which is believed to be classified based on guidance provided by NRC or by derivation from classified documents, but which no authorized classifier has determined to be classified, it must be protected and marked with the appropriate classification markings pending review and signature of an NRC authorized classifier. This final determination should be made within 30 working days. The licensee or other person must protect the document as National Security Information or Restricted Data of the highest classification at issue while awaiting a final determination.

45 FR 14476

(b) *Classification consistent with content.* Each document containing National Security Information and/or Restricted Data shall be classified Secret or Confidential according to its content.

(c) *Markings required on face of classified documents.* Each classified document must contain on its face:

(1) For National Security Information documents:

(i) Identity of classifier. The identity of the classifier must be shown by completion of the "CLASSIFIED BY" line. The completion of the "CLASSIFIED BY" line must show the guide or guidance responsible for the classification and the signature of the classifier applying the guidance to the document.

48 FR 24318

(ii) Date of classification and office of origin. The date on a document at the time of its origination may be considered the date of classification if the document is marked as classified on the same day it is originated. If the document is marked on a day subsequent to its origination, the actual date of marking must be shown on the "Classified By" line.

(iii) Classification designation (e.g., Secret, Confidential) and National Security Information.

(iv) Date or event for declassification. Completion of the "Declassify On" line will satisfy this requirement. If the information is not to be declassified automatically on a specific date or upon occurrence of an event, the "Declassify On" line must read as "Declassify On: Originating Agency's Determination Required."

(2) For Restricted Data documents:

(i) Identity of the classifier. The identity of the classifier must be shown by completion of the "Derivative Classifier" line. The "Derivative Classifier" line must show the name of the person classifying the document and the basis for the classification. Dates for downgrading or declassification do not apply.

(ii) Classification designation (e.g., Secret, Confidential) and Restricted Data.

(d) *Classification Markings.* The highest classification marking assigned to a document shall be placed in a conspicuous fashion in letters at the top and bottom of the outside of the front covers and title pages, if any, and first and last pages on which text appears, on both bound and unbound documents, and on the outside of back covers of bound documents. The balance of the pages shall be marked at the top and bottom either with:

45 FR 14476

(1) The classification marking assigned to the document, or

(2) The classification marking required by their content, or

(3) The marking UNCLASSIFIED if they have no classified content.

(e) *Additional markings.* (1) If the document contains any form of Restricted Data it shall bear the appropriate marking on the first page of text, on the front cover and title page, if any. For example:

Restricted Data

This document contains Restricted Data as defined in the Atomic Energy Act of 1954. Unauthorized disclosure subject to Administrative and Criminal sanctions.

(2) If the document does not contain a form of Restricted Data but does contain National Security Information, it shall bear the following marking, on the first page of text, on the front cover and title page, if any:

National Security Information

Unauthorized disclosure subject to Administrative and Criminal Sanctions

(3) Limitation on reproduction or dissemination. If the originator or classifier determines that reproduction or further dissemination of a document should be restricted, the following additional wording may be placed on the face of the document:

Reproduction or Further Dissemination Requires Approval of

If any portion of this additional marking does not apply, it should be crossed out.

45 FR 14476

(f) *Portion markings.* In addition to the information required on the face of the document, each classified document is required, by marking or other means, to indicate clearly which portions are classified (e.g., paragraphs or pages) and which portions are not classified. The symbols (S) for Secret, (C) for Confidential, (U) for Unclassified, (RD) for Restricted Data, or (NSI) for National Security Information may be used immediately preceding or following the text to which it applies except that the designation shall follow titles or subjects. (Portion marking of paragraphs is not required for documents containing Restricted Data.) If such portion marking is not practicable, the document must contain a description sufficient to identify the classified information and the unclassified information.

Example

Pages 1–3 Secret National Security Information
Pages 4–19 Unclassified
Pages 20–26 Secret National Security Information
Pages 26–32 Confidential National Security Information

(g) *Documentation.* (1) All Secret documents shall bear on the first page a properly completed documentation stamp such as the following:

Document No. ____________________
This document consists of —— pages
Copy No. —— of —— copies Series ——.

(2) The series designation shall be a capital letter beginning with the letter "A" designating the original set of copies prepared. Each subsequent set of copies of the same document shall be identified by the succeeding letter of the alphabet. The document number identifies the originating ofice, year of origin, and numerical sequence of the document in the originating office.

45 FR 14476

(h) *Transmittal document.* If a document transmitting National Security Information and/or Restricted Data contains no classified information or the classification level of the transmittal document is not as high as the highest classification level of its enclosures, then it must be marked at the top and bottom with a classification at least as high as its highest classified enclosure. The classification may be higher if the enclosures, when combined, warrant a higher classification than any individual enclosure. When the contents of the transmittal document warrant a lower classification than the highest classified enclosure(s) or combination of enclosures or requires no classification, a stamp or marking such as the following must also be used on the letter:

UPON REMOVAL OF ATTACHMENTS THIS DOCUMENT IS:
(Classification level of transmittal document standing alone or the word "UNCLASSIFIED" if the transmittal document contains no classified information.)

48 FR 24318

(i) Document which custodian believes is improperly classified or lacking appropriate classification markings. If a person receives a document which, in his opinion, is not properly classified, or does not have appropriate classification markings, he shall immediately notify the sender and suggest to the originator the classification which he believes to be appropriate. Whenever requested, this challenge of classification marking shall be handled in a manner which will assure the anonymity of the challenger. Pending final determination of proper classification, such document shall be safeguarded in accordance with the procedures required for the highest classification in question. Where unauthorized disclosure may have occurred, a report in accordance with Section 95.57 of this Part is required. Such reports shall be maintained for two years after final corrective action has been taken.

45 FR 14476

(j) *Files, folders or group of documents.* Files, folders, binders, or groups of physically connected documents shall be marked at least as high as the highest classified document which they contain. A document removed from the files, folders, binders or groups shall be handled in accordance with the document's respective classification.

45 FR 14476

(k) *Drafts and working papers.* Drafts of documents and working papers which contain or which the originator believes contain classified information must be marked on the top and bottom of each page with the highest level of classification contained, or believed to be contained, with the National Security Information or Restricted Data marking. It is not required that other markings specified in § 95.37(c) can be applied or that an NRC Form 790 be prepared as indicated in § 95.57(c) for drafts and working papers, provided they are not disseminated outside the facility. Prior to any dissemination outside of the facility, drafts and working papers must be reviewed by an authorized derivative classifier, final and complete classification markings applied, and an NRC Form 790 prepared and submitted to the NRC Division of Security, Washington, D.C. 20555. If classified Secret, the document must be recorded in the accountability record in accordance with § 95.41.

48 FR 24318

§ 95.39 External transmission of documents and material.

(a) *Restrictions.* Documents and material containing National Security Information and/or Restricted Data received or originated in connection with an NRC license shall be transmitted only to Commission approved security facilities.

(b) *Preparation of documents.* Documents containing National Security Information and/or Restricted Data shall be prepared in accordance with the following, when transmitted outside an individual installation.

(1) They shall be enclosed in two sealed opaque envelopes or wrappers.

(2) The inner envelope or wrapper shall contain the addressee's classified mail address and the name of the intended recipient. The appropriate classification shall be placed on both sides of the envelope (top and bottom) and the additional markings, as appropriate, referred to in Section 95.37(e) of this Part shall be placed on the side bearing the address.

(3) The outer envelope or wrapper shall contain the addressee's classified mail address. No classification, additional marking or other notation shall be affixed which indicates that the document enclosed therein contains National Security Information or Restricted Data.

(4) A receipt which contains an unclassified description of the document, the document number, if any, date of the document, copy number and series, classification, the date of transfer, the recipient and the person transferring the document shall be enclosed within the inner envelope containing the document and shall be signed by the recipient and returned to the sender whenever the custody of a Secret document is transferred. Such receipting for Confidential National Security Information or Confidential Restricted Data is at the option of the sender.

(c) *Methods of Transportation.* (1) Secret matter shall be transported only by one of the following methods:

(i) By a messenger-courier system specifically created for that purpose,

(ii) U.S. registered mail,

(iii) By protective services provided by United States air or surface commercial carriers under such conditions as may be prescribed by the Commission,

(iv) When emergency situations preclude the use of any of the above, by specifically designated individuals possessing appropriate NRC or other Federal access authorizations, and written authority. Items being carried should be listed in an appropriate location to permit their identification if lost.

45 FR 14476

(2) Confidential matter shall be transported by one of the methods set forth in subparagraph (1) of this paragraph, by U.S. first class, express or certified mail. First class, express, or certified mail may be used in transmission of Confidential documents to Puerto Rico or any United States territory or possession.

45 FR 37410

(d) *Telecommunication of Classified information.* There must be no telecommunication of National Security Information or Restricted Data unless the telecommunication system has been approved by the NRC Division of Security. Licensees or other persons who may require a secure telecommunication system shall submit a telecommunication plan as part of their request for NRC security facility approval, as outlined in § 95.15, or as an amendment to their existing security plan for the protection of National Security Information or Restricted Data.

48 FR 24318

48 FR 24318

§ 95.41 Accountability for secret matter.

Each licensee or other person possessing Secret National Security Information and/or Restricted Data shall establish an accountability procedure and shall maintain records to show the disposition of such matter. Records reflecting accountability and disposition of classified matter shall be maintained for two years after its disposition.

48 FR 24318

§ 95.43 Authority to reproduce.

Secret National Security Information and/or Restricted Data must not be reproduced without the written permission of the originator, the originator's successor, or higher authority. Confidential National Security Information and/or Confidential Restricted Data may be reproduced, unless restricted by the originating agency, to the extent required by operational needs.

§ 95.45 Changes in classification.

(a) Documents containing National Security Information and/or Restricted Data must be downgraded or declassified as authorized by NRC classification guides or as determined by NRC. Requests for downgrading or declassifying any National Security Information and/or Restricted Data should be forwarded to the NRC Division of Security, Office of Administration, Washington, DC 20555. Requests for downgrading or declassifying of Restricted Data will be coordinated as appropriate by the NRC Division of Security with the Department of Energy.

45 FR 14476

(b) If a change of classification or declassification is approved the previous classification marking shall be cancelled and the following statement, properly completed, shall be placed on the first page of the document:

Classification canceled (or changed to)

____

(Insert appropriate classification)
by authority of

____

(Person authorizing change in classification)
by

____

(Signature of person making change and date thereof)

Any persons making a change in classification or receiving notice of such a change shall forward notice of the change in classification to holders of all copies as shown on their records.

45 FR 14476

§ 95.47 Destruction of matter containing national security information and/or restricted data.

Documents containing National Security Information and/or Restricted Data may be destroyed by burning, pulping, or another method that assures complete destruction of the information which they contain. The method of destruction must preclude recognition or reconstruction of the classified information. Any doubts on methods should be referred to the NRC Division of Security. If the document contains Secret National Security Information and/or Restricted Data a record of the subject or title, document number, if any, originator, its date of origination, its series designation and copy number, and the date of destruction shall be signed by the person destroying the document and shall be maintained in the office of the custodian at the time of destruction. Such destruction records shall be maintained for a period of two years.

48 FR 24318

§ 95.49 Security of automatic data processing (ADP) systems.

Classified data or information must not be processed or produced on an ADP system unless the system and procedures to protect the classified data or information have been approved by the NRC Division of Security. Approval of the ADP system and procedures is based on a satisfactory ADP security proposal submitted as part of the licensee's or other person's request for NRC security facility approval outlined in § 95.15 or submitted as an amendment to its existing security plan for the protection of National Security Information or Restricted Data.

45 FR 14476

§ 95.51 Retrieval of classified matter following suspension or revocation of access authorization.

In any case where the access authorization of an individual is suspended or revoked in accordance with the procedures set forth in Part 25 of this chapter the licensee or licensed related organization shall, upon due notice from the Commission of such suspension or revocation, retrieve all National Security Information and Restricted Data possessed by the individual and take such action as necessary to preclude that individual having further access to such information.

§ 95.53 Termination, suspension or revocation of security facility approval.

(a) If the need to use, process, store, reproduce, transmit or handle classified matter, no longer exists, the security facility approval will be terminated. The facility may deliver all documents and materials containing National Security Information and Restricted Data to the Commission or to a person authorized to receive them; or the facility may destroy all such documents and materials. In either case the facility must submit a certification of nonpossession of National Security Information and Restricted Data to the NRC Division of Security.

(b) In any instance where security facility approval has been suspended or revoked based on a determination of the Commission that further possession of classified matter by the facility would endanger the common defense and national security, the facility shall, upon notice from the Commission, immediately deliver all classified documents and materials to the Commission along with a certificate of nonpossession of National Security Information and Restricted Data.

§ 95.55 Continued applicability of the regulations in this part.

The suspension, revocation or other termination of access authorization or security facility approval shall not relieve any person from compliance with the regulations in this part.

45 FR 14476

48 FR 24318

§ 95.57 Reports

Each licensee or other person having a security facility approval shall immediately report to the Regional Administrator of the appropate NRC Regional Office listed in Appendix A, 10 CFR Part 73:

45 FR 14476

(a) Any alleged or suspected violation of the Atomic Energy Act, Espionage Act, or other Federal statutes related to National Security Information and/or Restricted Data.

(b) Any infractions, losses, compromises or possible compromise of National Security Information and/or Restricted Data or classified documents

48 FR 24318

(c) In addition, a licensee's or license related organization's authorized classifier shall complete a NRC Form 790 (Classification Record) whenever a document containing National Security Information and/or Restricted Data is generated, its classification is changed or it is declassified. Notification of declassification is not required for any document or material which has an automatic declassification date. Completed NRC Forms 790 should be submitted to the NRC Division of Security, Washington, DC 20555, on a monthly basis.

§ 95.59 Inspections.

The Commission shall make inspections and surveys of the premises, activities, records and procedures of any person subject to the regulations in this part as the Commission deems necessary to effect the purposes of the Act, E.O. 12356, and NRC rules.

48 FR 24318

§ 95.61 Violations.

(a) An injunction or other court order may be obtained to prohibit a violation of any provision of:

(1) The Atomic Energy Act of 1954, as amended;

(2) Title II of the Energy Reorganization Act of 1974, as amended; or

(3) Any regulation or order issued under these Acts.

(b) National Security Information is protected pursuant to the requirements and sanctions of E.O. 12356.

(c) Whoever willfully violates, attempts to violate, or conspires to violate, any provision of the Atomic Energy Act of 1954, as amended, for which no criminal penalty is specifically provided or any regulation or order prescribed or issued under subsection 161i of the Act may be guilty of a crime and, upon conviction, may be punished by fine or imprisonment or both, as provided by law. Regulations issued under the Act include regulations issued under subsection 161i and cited within the authority citation at the beginning of this part for the purposes of section 223.

45 FR 14476

Appendix A.—Classification Guide for Safeguards Information

Table of Contents

Introduction

Classification Guidance

100 Material Control and Accountability.
  110 SSNM Quantities.
  120 SSNM Measurement Data.
  130 Material Control and Accounting Plans.
  140 Quantitative SSNM Balance Data.
  150 Other Items Pertaining to Material Control and Accounting.
200 Physical Protection at Fixed Sites.
  210 Site and Facility Description.
  220 Intrusion and Detection Alarm Systems.
  230 Plant Radio and Telephone Communication Systems.
  240 Tamper Indicating Seals.
  250 Keys, Locks and Combinations.
  260 Threat Response Capability and Procedures.
  270 Personal Verification Codes.
  280 Audit and Assessment Information.
  290 Miscellaneous.
300 In-Transit Protection of SSNM.
  310 Shipment Contents.
  320 Schedules and Itinerary For Specific Shipments.
  330 SECOM Operations.
  340 Inter-Vehicle Communications.
  350 Communications Equipment Per Se.
  360 Communications Coordination with Local Law Enforcement Agencies.
  370 Guard Organization and Capabilities.
  380 Secure Transport Vehicles.
400 Safeguards analyses and Plans.
  410 Diversion or Sabotage Vulnerability Studies.
  420 Plans for Response to Threats.
500 Safeguards Research, Development, Tests, and Evaulation.
  510 Generic.
  520 Conceptual Studies.
  530 Evaluations.
  540 Specific Performance Capabilities or Vulnerabilities.
  550 Hardware.

Classification Guide for Safeguards Information

Introduction

45 FR 14476

A. *Purpose.* To provide security classification guidance for the safeguarding of information about certain nuclear material or facilities.

B. *Scope.* This guide provides for the classification of information concerning: (1) Reactor and research facilities which have nonself-protecting formula quantities of strategic special nuclear material (SSNM); (2) shipment activities involving nonself-protecting formula quantities of SSNM; and (3) fuel cycle facilities authorized to possess or use nonself-protecting formula quantities of SSNM.

For convenience, this guide divides safeguards information into the following five categories: (1) Material control and accountability; (2) physical protection at fixed sites; (3) in-transit protection of SSNM; (4) safeguards analyses and plans; and (5) safeguards research, development, test, and evaluation.

48 FR 24318

C. *Basic Policy.* The principle which underlies the policy for classification of safeguards information is to provide the maximum possible information to the public, while at the same time protecting against unauthorized disclosure of information which could cause damage to the national security. Such information includes:

(1) Information from SSNM accounting and control systems that could: (a) Facilitate assistance to, frustrate or delay the detection of, or the response, to, the attempted theft or diversion of formula quantities of nonself-protecting SSNM; (b) enhance the credibility or frequency of nuclear threats;

(2) Information that could facilitate carrying out a successful sabotage mission against any facility or activity involving formula quantities of nonself-protecting SSNM;

(3) Information that could facilitate carrying out a successful theft or diversion or formula quantities of nonself-protecting SSNM.

Safeguards information placed officially in the public domain or obtainable by visual access from uncontrolled areas is unclassified.

Retention of safeguards information is subject to authorized records disposition shedules.

This guide is approved for use by Nuclear Regulatory Commission (NRC), NRC contractors, licensees, and other personnel in classifying safeguards information.

D. *Use of this Guide:*

1. Information designated as either "Confidential or Secret" in this guide will be classified accordingly by users of the guide. This guide constitutes a record of an original classification decision by the approving authority and directs the derivative classification of information which the guide indicates is classified. Any questions concerning the applicability of this guide should be directed to the Director, Division of Security, Nuclear Regulatory Commission, Washington, D.C. 20555.

2. Certain topics indicate that, information to which they apply may be either Confidential or Secret. Application of these topics requires informed judgment based on knowledge of the overall context of the information. Any questions concerning the applicability of this guide should be directed to the Director, Division of Security, Nuclear Regulatory Commission, Washington, D.C. 20555.

3. In some cases, more detailed supplementary guides may be required. Proposals for such guides should be forwarded to the Director, Division of Security, Nuclear Regulatory Commission, Washington, D.C. 20555.

4. Compilations of unclassified information are generally considered to be unclassified unless some additional factor is added in the process of compilation. For example: (a) The fact that the information is complete for its intended purposes maybe calssified; or (b) the fact that compiled information represents an official evaluation may be classified.

5. Care should be taken that the declassification of a document does not violate provisions of the guide when evaluated in connection with information already unclassified.

6. If classified information can be discerned from the use, presence, or capabilities of any equipment, the equipment will be classified at the level of and as long as classified information can be discerned from the equipment.

45 FR 14476

E. *Definitions used in the Guide:*

1. *Formula Quantity of Strategic Special Nuclear Material (SSNM)*—(sometimes referred to as: formula grams, trigger quantity, strategic quantity, threshold quantity and significant quantity), a formula quantity of strategic special nuclear material is 5,000 grams or more computed by the formula, grams = (grams contained U-235) + 2.5 (grams U-233 + grams Pu).

2. *Inventory Difference (ID)—(formerly Material Unaccounted For (MUF))*—the algebraic difference between a physical inventory and its concomitant book inventory after determining that all known removals and additions have been reflected in the book inventory. It is calculated by subtracting ending inventory plus removals from beginning inventory plus additions to inventory.

3. *Material Access Area*—any location which contains special nuclear material within a vault or a building, the roof, walls, and floor of which each constitutes a physical barrier.

4. *Material Control and Accounting Plan*—a site specific document (or group of documents) that gives a comprehensive description of the measures employed in the material control and accounting program.

48 FR 24318

5. *National Security Information (NSI)*—information or material collectively termed information, that is owned by, produced for or by, under the control of, or regulated by the United States Government, and that has been determined pursuant to Executive Order 12356 or prior Executive Orders to require protection against unauthorized disclosure, and that is so designated.

6. *Nuclear Facility*—any facility for originating, producing, using, shipping, receiving or storing formula quantities of nonself-protecting SSNM.

7. *Physical Security Plan*—a site specific document (or group of documents) that provides a comprehensive description of the measures employed for the physical protection of nuclear facilities and materials against sabotage, theft, or diversion of formula quantities of nonself-protecting SSNM.

8. *Reporting Entity*—a licensee or contractor which has been assigned a unique reporting identification symbol (RIS) by NRC or the Department of Energy (DOE) and is required to submit periodic material status reports (NRC/DOE Form 742) identified by the RIS.

9. *Restricted Data (RD)*—defined in the Atomic Energy Act of 1954, as amended, as "all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy; but shall not include data declassified or removed from the Restricted Data category pursuant to Section 142."

10. *Secom*—a nationwide high frequency radio system which provides a means of communicating with and monitoring the progress of SNM shipments moving in the DOE transportation safeguards system.

45 FR 14476

11. *Self-Protecting Strategic Special Nuclear Material*—SSNM which is not readily separable from other radioactive material and which has a total external radiation dose rate in excess of 100 rems per hour at a distance of 3 feet from any accessible surface without intervening shielding.

12. *Special Nuclear Material (SNM)*—(1) plutonium, uranium-233, uranium enriched in the isotope-233 or in the isotope-235, and any other material which the Commission, pursuant to the provisions of Section 51 of the Atomic Energy Act, as amended, determines to be special nuclear material, but does not include source material; or (2) any material artifically enriched by any of the foregoing but does not include source material.

13. *Strategic Special Nuclear Material* (SSNM)—uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope), uranium-233, or plutonium.

48 FR 24318

F. *Declassification—E.O. 12356.* Restricted Data is exempt from automatic declassification and does not require declassification markings. National Security Information identified in this Guide will be marked for declassification as specified by the applicable topic of this Guide. This Guide has been approved by an original Top Secret classification authority.

G. *Abbreviations.* The following abbreviations are used in this Guide

S—Secret.
C—Confidential.
U—Unclassified.
RD—Restricted Data.
NSI—National Security Information.
OADR—Originating Agency's Determination Required.
SSNM—Strategic Special Nuclear Material.

G. *Abbreviations.* The following abbreviations are used in this guide:

48 FR 24318

S—Secret.
C—Confidential.
U—Unclassified.
RD—Restricted Data.
NSI—National Security Information.
SSNM—Strategic Special Nuclear Material.

CLASSIFICATION GUIDANCE

100 *Material Control and Accountability*

110 SSNM quantities.

111 Total quantities of SSNM at any given time by total plant.	U.
112 Total quantities at any given time of SSNM by designated vault and vault-type storage areas.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

NOTE: Inventories of SSNM for classified DOE programs (e.g., production, naval reactors) will be classified in accordance with DOE guidance applicable to those programs.

120 SSNM Measurement Data.

48 FR 48644

121 Measurement accuracy required by unclassified regulations (e.g., 10 CFR Part 70).	U.
122 Measurement uncertainties associated with bulk and analytical measurements that are typical for the nuclear industry provided information classified by other topics in this guide is not revealed.	U.
123 The Limit of Error on Inventory Difference (LEID) for individual material balance period or on a cumulative period basis.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

130 Material Control and Accounting Plans.

131 Plans submitted in accordance with 10 CFR Part 70 which contains details of the licensee plan for the material control and accounting programs.	U.

These include frequency and schedule of SSNM inventories, and measurement control, including equipment, methodology, quality assurance, destructive and nondestructive analyses, audit and organization.

140 Quantitative SSNM Balance Data.

CLASSIFICATION GUIDANCE—Continued

The classification guidance in these topics applies to SSNM balance information not classified by other guides, e.g., production of naval reactors; classified topics in such guides take precedence where applicable.

141 Receipts	U.
142 Shipments	U.
But see Topic 312.	
143 Other removals: measured discards, decay losses, and losses due to fission and transmutation and ID.	
143.1 Total "other removals".	U.
143.2 Itemized "other removals" for a reporting period.	U-CNSI—See declassification note for Topic 144.

U when ID is unclassified. See Topic 144

144 Inventory Difference in any amount.	CNSI.[1]

150 Other Items Pertaining to Material Control and Accounting.

48 FR 48644

151 Any computer output displays or printouts which provide itemized "other removals" or inventory difference data.	CNSI—See 143.2 or Topic 144 for applicable declassification marking.

200 *Physical Protection at Fixed Sites*

201 The physical security plan for a nuclear facility or site. Plans may be SNSI in accordance with other applicable classification guidance.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret if significant vulnerability is revealed, e.g., degree of seriousness, or explicit means of penetrating existing security defenses are disclosed. See, for example, Section 400 of this guide.

210 Site and Facility Description.

211 Only the general layout that can be seen from uncontrolled areas and which does not identify a vulnerability. This general layout may include: buildings parking areas, access roads, fences, outside storage areas, natural terrain, landscaped areas, tunnels, storm and waste sewers, water intake and discharge conduits, culverts, creeks,	U.

CLASSIFICATION GUIDANCE—Continued

canals, and any other physical characteristics such as features of buildings, barriers, fences, guard stations, etc.	
212 Site specific "as built" drawings, diagrams, sketches, maps, etc., showing identity together with location and/or description of facility features of special interest because of their relationship to the physical security system that if revealed could facilitate theft or diversion of SSNM, or sabotage of a facility.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

But see Topics 211, 213 and 221.

213 Scope, conceptual design, and construction drawings showing construction characteristics of buildings and associated fencing, electrical and other utility system layouts.	U.

But see Topic 212.

214 Government sponsored or required evaluations of site-specific construction features or physical security barriers revealing vulnerabilities or limitations which could facilitate penetrating or by-passing physical security barriers.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret if significant vulnerability, e.g., degree of seriousness, or explicit means of defeating these systems is revealed.

220 Intrusion and Detection Alarm Systems.

Includes Manually Activated Duress Alarms

221 Scope, conceptual design, and construction plann.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

See Topic 222.

222 As installed details of alarms system layout location, and electrical design that if disclosed could facilitate gaining unauthorized access to SSNM, nuclear facilities, or classified information.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
223 Vendor hardware performance specifications. Specifications for vendor custom design equipment may be classified.	U.

CLASSIFICATION GUIDANCE—Continued

224 Information, including the effect of specific modifications, revealing in-place operating capability that if disclosed facilitates bypassing such systems.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
225 Security-related vulnerability or weakness.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret if significant vulnerability is revealed, e.g., degree of seriousness or explicit means of defeating these systems.

225.1 Vulnerability information directly available from vendor specifications.	U.
226 Sensitivity levels or limits to which installed systems have been set.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

48 FR 48644

230 Plant Radio and Telephone Communication Systems.

231 Government sponsored or required evaluations of site-specific existing plant radio and telephone communications systems revealing vulnerabilities or limitations in operating capability or procedures.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret if significant vulnerability is revealed, e.g., degree of seriousness or explicit means of defeating these systems.

240 Tamper Indicating Seals.

241 Information revealing ways of successfully circumventing seals which are used to protect SSNM.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret if explicit means of successfully bypassing seals are disclosed.

242 Methodology of manufacture.	U.
243 Methodology of application.	U.

250 Keys, Locks, and Combinations.

CLASSIFICATION GUIDANCE—Continued

251 Generic types and models of keys and locks used.	U.
252 Mechanical key design, e.g., key cut depths coding systems which are used to protect areas of a security interest.	C-SNSI.

Classify consistent with the level and duration of classification of information being protected, may be RD.

253 Combinations and codes.	C-SNSI.

Classify consistent with the level and duration of classification of information being protected, may be RD.

254 Site-specific evaluation of lock or door locking systems that reveals vulnerability.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret if explicit means of surreptitiously gaining access are disclosed.

48 FR 48644

260 Threat Response Capability and Procedures.

See also Section 400, Safeguards Analyses and Plans.

261 Number of security personnel.

261.1 Information available by visual access from uncontrolled areas to routine guard patrol activities.	U.
261.2 Total security personnel available onsite at a particular time for a site or particular activity including number and type of weapons, other than standard sidearm.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
261.3 Guard force deployment plan or scheme.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
261.4 Size and armament of inhouse reserve forces.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

262 Contingency Plans.

262.1 Response to a specific threat, e.g., disposition, amament or planned response of security	C-SNSI—Declassify on: Originating Agency's Determination

CLASSIFICATION GUIDANCE—Continued

forces including number of personnel responding to specific incidents.	Required (OADR).

Secret when revealing increased degree of vulnerability of a site as a result of a specific action.

262.2 Arrangements with local, state, and federal law enforcement units.	U.

See Topic 262.1.

262.3 Numerical threat level for contingency planning.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
263 Response Time of Guards and Back-Up Force.	
263.1 Response time required.	U-CNSI—Declassify on: Originating Agency's Determination Required (OADR).

Unclassified if stated in unclassified NRC manual chapters or regulations.

48 FR 48644

263.2 Actual response time capabilities.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret when revealing increased degree of vulnerability of a site as a result of a specific action.

264 Security Patrols.	
264.1 Procedures, schedules and frequency for routine security tours.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
264.2 Actual prearranged schedule including the specific times and locations.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
270 Personal Verification (Emergency or Duress) Codes and/or How They Are Used.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).
280 Audit and Assessment Information.	
281 General methods for auditing of physical security measures or assessing of these measures.	U.
282 General procedures for routine inspection and testing of equipment (e.g., barriers, alarms, communications).	U.
283 Government sponsored or required evaluations of security systems revealing vulnerabilities or limitations in physical security measures, operating procedures or personnel capabilities.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR).

Secret if significant vulnerabilities are revealed, e.g., degree of seriousness or explicit means of penetrating security defenses.

290 Miscellaneous.	
291 Detailed reports of attempted or successful penetration of nuclear facilities and attempted or successful diversion or theft of special nuclear material within or from a nuclear facility.	CNSI—Declassify on: Originating Agency's Determination Required (OADR).

Reports of facts of attempted or successful penetration or diversions, without further elaboration, are unclassified.

Information covered by this topic is declassified when operationally necessary to repel attacks or recover stolen SSNM.

292 Reports of other unusual or abnormal occurrences or incidents, the release of which would not reveal security-related vulnerabilities.	U.
293 Administrative control procedures.	U.
294 Complete emergency plans such as fire, safety and radiological emergency plans provided they do not reveal information classified by other topics of this guide.	U.
300 In-Transit Protection of SSNM.	

Topics in this section apply only to shipments of formula or greater quantities of SSNM.

Certain classification guidance in the area of In-Transit protection is classified.

301 Fact that SSNM shipments are protected by various unspecified means.	U.
302 Information regarding operations, shipments, routing and protection available as a result of uncontrolled visual access to the shipment when it is in progress.	U.
303 Fact of use of any shipment mode, e.g., air, rail, truck, ship, etc.	U.
310 Shipment Contents.	

The classification guidance in this section applies to shipment composition information not classified by other guides, e.g., those relating to production, weapons, or naval reactors; classified topics in such guides take precedence where applicable.

Shipment contents information for a specific shipment is declassified when it is determined to be necessary to release such information in the event of an operational exigency, e.g., vehicle accident.

311 Fact that a specific shipment contains radioactive material.	U.
311.1 Any further elaboration as to identity or composition of the material, e.g., fact that it is SSNM, fact that it is PU or U.	CNSI—May be declassified after arrival of shipment at final destination provided neither classified shipping patterns nor other information classified by this guide is revealed.
312 Quantity of SSNM in a particular shipment.	CNSI—May be declassified after arrival of shipment at final destination provided neither classified shipping patterns nor other information classified by this guide is revealed.
312.1 Number and size of packages provided that the information classified by other topics of this or other applicable guides is not revealed.	U.
320 Schedules and itinerary for Specific Shipment	
A. Total itinerary is declassified when it is determined to be necessary to release such information.	CNSI—May be declassified after arrival of shipment at final destination provided neither classified shipping patterns nor other information classified by this guide is revealed

CLASSIFICATION GUIDANCE—Continued

1. To uncleared commercial carrier(s) selected to move a shipment(s)	
2. In the process of filing flight plans with FAA	
B. Individual items of schedule information, less than the total itinerary are declassified when it is determined to be necessary to release such information.	
1. In the event of an operational exigency, e.g., vehicle accident or communications failure, when cleared communications facilities are unavailable	
2. In those cases when it is determined to be necessary to advise state or local law enforcement agencies regarding the movement of the shipment through areas under their jurisdiction	
330 SECOM (Secure Communications) Operations	
48 FR 48644	
331 The fact of existence of SECOM System and a general description of the operation.	U.
332 A general description of the SECOM equipment and SECOM Control Center.	U.
But See Topics 334 and 337	
333 Operating procedures	
333.1 Base Station Operating Procedures.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
333.2 General Mobile Operating Procedures.	U.
But See Topics 333.3 and 334	
333.3 Appendices to General Operating Procedures that concern the security/safeguards of shipments.	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
334 Detailed description of.	
334.1 Operation and equipment.	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
334.2 Checkpoint System.	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
334.3 Authentication System.	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
335 Emergency Response Procedures.	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
336 Authenticator Lists ...	CNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
336.1 Before use.	
48 FR 48644	
336.2 After use, if information relevant to subsequent use is not revealed.	U.
337 Maps showing in-transit locations of shipments.	CNSI—Maps become declassified after removal of in-transit locations
338 Records	
338.1 Voice Recordings..	U.
338.2 SECOM station logs.	U-SNSI.
Classification of the station log depends upon the level and duration of classification of the information entered in the log.	
339 Software and Software Documentation (guidance for specific program to be identified as developed)	
Classification level and duration depends upon what information, covered by other topics in this guide, is revealed.	
340 Inter-Vehicle Communications	
341 Fact of radio communications and the radio frequencies used between SSNM vehicle and escort vehicles.	U.
Elaboration may be classified	
342 Communications procedures and system information not revealing information classified by other topics of this guide.	U.
350 Communications Equipment Per Se.	U.
360 Information Concerning Communications Systems Procedures and Equipment which *Must* be exchanged with Local Law Enforcement Agencies Providing it Does not Reveal Information Contained in the Physical Security Plan.	U.
370 Guard Organization And Capabilities	
371 The fact that armed guards accompany special nuclear material shipment.	U.
48 FR 48644	
372 The total number of guards that accompany a particular shipment.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
373 Contingency plans for safeguarding enroute shipments, e.g., disposition, armament or planned response of security forces.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
374 Arrangements with local law enforcement agencies.	U
380 Secure Transport Vehicles.	
381 Fact of existence of such vehicles, e.g., Safe Secure ATMX Car, and Special Nuclear Material Vehicles (SNMVs) and commercial vehicles designed to carry and safeguard SSNM.	U.
382 General description of purpose and function, e.g., to reduce the vulnerability of shipment to diversion and to deter unauthorized access to transported cargo.	U.
383 Visual access to vehicle exterior.	U.
384 Visual access to vehicle cargo	U.

Classification Guidance—Continued

compartment, provided information classified by other topics of this guide is not revealed.	
385 Fact of use of specific passive or active protection features.	U-CNSI—Declassify on: Originating Agency's Determination Required (OADR)

Fact of use of armor plate, bullet resistant glass, foam, and brake locking is unclassified.

386 Design details of passive or active protection.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)

400 Safeguards Analyses and Plans

410 Diversion or Sabotage Vulnerability Studies.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR)
411 Site-specific route specific scenarios for theft, diversion or sabotage.	C-SNSI [2]—Declassify on: Originating Agency's Determination Required (OADR)

Secret if signficiant vulnerability is revealed, e.g., degree of seriousness or explicit means of penetrating security defenses are disclosed.

412 Evaluations scenarios for theft, diversion or sabotage.	C-SNSI [2]—Declassify on: Originating Agency's Determination Required (OADR)

Secret if signficiant vulnerability is revealed, e.g., degree of seriousness or explicit means of penetrating security defenses are disclosed.

413 Site-specific or route specific diversion path or vulnerability anaylsis.	C-SNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)

Secret if significant vulnerability is revealed, e.g., degree of seriousness or explicit means of penetrating security defenses is disclosed.

414 Diversion path or vulnerability analysis methodology, e.g., general techniques	U.

48 FR 48644

Classification Guidance—Continued

(fault tree, event tree, systems analysis, etc.).

Secret if significant vulnerability is revealed, e.g., degree of seriousness or explicit means of penetrating security defenses is disclosed.

420 Plans for response to threats.	C-SNSI [2]—Declassify on: Originating Agency's Determination Required (OADR)
421 Fact that current NRC regulations are intended to cover a threat of several people	U.
422 Vulnerabilities of specific facilities.	C-SNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)

Secret if significant vulnerability is revealed, e.g., degree of seriousness or explict means of penetrating security defenses.

423 Threat Levels.	
423.1 Specific threat levels against which the NRC licensees can or cannot protect.	C-SNSI[2]—Declassify on: Originating Agency's Determination Required (OADR)
423.2 Threat levels against which NRC licensees intend to protect in the future.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR)
423.3 External and internal threat levels which are used as part of a sensitivity analysis of a security system to threats in that system.	C-SNSI—Declassify on: Originating Agency's Determination Required (OADR)

500 *Safeguards Research, Development, Test, and Evaluation (RDT&E).*

510 Generic Functions, General Performance Characteristics, and General Applications Materials, Equipment, Processes, and Conceptual Studies in RDT&E for New or Improved Safeguards, Provided Information Classified by Other Topics in This Guide is Not Revealed.	U.
520 Conceptual Studies for a Generic Facility	U.

48 FR 48644

Classification Guidance—Continued

or Site. The Objectives, Capabilities, and Applications for an Entire Site Security System.	
530 Evaluations of Commercial or Commercially Developed Equipment Which has Undergone or is Undergoing Laboratory Testing.	U.

But see Topics 214, 222, 224, 231, 241, 410.

540 Specifc Performance Capabilities or Vulnerabilities of Systems, Subsystems, Materials, Equipment, or Processes in RDT&E for New or Improved Safeguards.	
541 Information revealing a vulnerability which would significantly assist the bypass or defeat of the integrated safeguards system actually installed (or planned to be installed) at a specific facility or in the transportation system.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
542 Information about a characteristic or feature that meets all of the following criteria (1) it would significantly delay the bypass or defeat of an operational application, and (2) its presence in an operation configuration and application would not be reasonably expected or predicted.	CNSI—Declassify on: Originating Agency's Determination Required (OADR)
550 **Hardware is Classified in Accordance With Information It Reveals.**	

48 FR 48644

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[1] May be declassified after a period of six months from date of inventory assessment, provided (a) any resulting investigation is completed, and (b) the initial classification determination was not due to extenuating circumstances. ID data remains classified for the duration of an investigation.

[2] Individual Items of information not revealing (1) significant information concerning the (a) security protection, (b) the disposition, armament, or planned response of security forces or (2) information classified under other topics of this guide or other applicable guides should be submitted through channels to the NRC Division of Security, for possible declassification.

PART 95

SECURITY FACILITY APPROVAL AND SAFEGUARDING OF NATIONAL SECURITY INFORMATION AND RESTRICTED DATA

PROPOSED RULE MAKING

≫ **50 FR 10064**
Published 3/13/85
Comment period expires 5/13/85.

Access to and Protection of National Security Information and Restricted Data

See Part 25 Proposed Rules

PART 95

SECURITY FACILITY APPROVAL AND SAFEGUARDING OF NATIONAL SECURITY INFORMATION AND RESTRICTED DATA

STATEMENTS OF CONSIDERATION

45 FR 14476
Published 3/5/80
Effective 5/19/80
(Effective Date Extended To 10/1/80)

Access to and Protection of National Security Information and Restricted Data

See Part 25 Statements of Consideration.

45 FR 37410
Published 6/3/80
Effective 6/3/80

Deletion of Reference to Panama Canal Zone; Minor Amendments

See Part 140 Statements of Consideration

46 FR 13203
Published 2/20/81
Effective 3/23/81

10 CFR Part 95

Access by Representatives of the International Atomic Energy Agency

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: These amendments permit Nuclear Regulatory Commission (NRC) licensees to grant International Atomic Energy Agency (IAEA) representatives access to NRC classified information as required by their visits to NRC-licensed facilities under the U.S./IAEA Safeguards Agreement. The amendments also specify recordkeeping requirements related to this access.

EFFECTIVE DATE: March 23, 1981.

FOR FURTHER INFORMATION CONTACT: Duane G. Kidd, Chief, Security Policy Branch, Division of Security, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 427–4415.

SUPPLEMENTARY INFORMATION: On July 31, 1980, the Nuclear Regulatory Commission published, as final rules, 10 CFR Part 75, "Safeguards on Nuclear Material—Implementation of U.S./IAEA Agreement," and other conforming amendments which provide the framework under which IAEA representatives will make visits and carry out certain inspections in NRC-licensed facilities (45 FR 50705). The Commission noted in the Statement of Considerations accompanying the rule that additional details of the implementation process would need to be treated by the time the Agreement enters into force. One of the details referred to in that notice was assurance that IAEA representatives could have access to some items of classified information, where required, in carrying out visits and inspections under the Safeguards Agreement.

On March 5, 1980, 10 CFR Part 95, "Security Facility Approval and Safeguarding of National Security Information and Restricted Data," was published as a final rule in the **Federal Register** (45 FR 14476). This part, which sets forth the information and physical security requirements that affected licensees must follow to protect NRC classified information, became effective October 1, 1980. Part 95 as currently written limits access to classified information to individuals possessing an NRC personnel security clearance.

This necessary amendment to Part 95 brings NRC procedures and regulations governing control and access to classified information into conformance with the U.S./IAEA Safeguards Agreement. Under these amendments, licensees are authorized to release (i.e., transfer possession of) copies of classified documents directly to IAEA representatives officially designated by IAEA to make these requests. However, in order that the U.S. may maintain an accurate account of what classified information has been disclosed to IAEA representatives, affected licensees will be required to keep certain records concerning IAEA visitations.

The Commission has determined that there are only three licensees presently affected by these amendments, namely, Rockwell International, General Atomic, and Public Service Co. of Colorado. Each of these licensees has been afforded an opportunity to comment regarding this action, and some clarifying changes have been made in response to their concerns. Other significant comments are discussed below. A record of the communications with these licensees has been placed in the Commission's Public Document Room at 1717 H Street, NW., Washington, D.C., where it is available for inspection and copying.

One commenter noted that the disclosure provisions of the NRC regulations may be inconsistent with requirements imposed by the Department of Energy (DOE) with respect to work performed under DOE contract at the licensee's site. NRC has brought this matter to the attention of DOE. It is anticipated that DOE will take appropriate action to modify its contract requirements so as to eliminate the potential conflict with NRC regulations.

Another commenter suggested that

since the classified information to which IAEA inspections would require access was entirely, or at least primarily, "safeguards information" as defined in section 147 of the Atomic Energy Act of 1954 (as amended by Pub. L. 96-295, the NRC Authorization Act for Fiscal Year 1980), the access and disclosure provisions should be drafted in accordance with that provision. Proposed regulations under section 147 were issued for public comment in the **Federal Register** on December 29, 1980 (45 FR 85459). Licensees, therefore, currently have the opportunity to consider these regulations and comment upon their relationship to Part 95. The immediate need is to provide a means for IAEA inspectors to have access, where required by the Agreement, to information which is currently classified as National Security Information, and this can only be accomplished by amending Part 95 along the lines of the present action.

A commenter suggested that the classification of information subject to disclosure be defined more specifically. The rule now specifically bars disclosure of Restricted Data. By authorizing access or release of National Security Information generally, it allows both Confidential and Secret NSI to be disclosed, where "relevant" to the conduct of a visit or inspection; we do not consider a specific reference to Confidential and Secret classifications to be needed.

Under the circumstances described in the rule, licensees are authorized to permit an IAEA inspector to have access to NSI. An inspector may make notes which reflect the contents of NSI to which he has had access. The inspector may carry these notes, along with copies of documents which have been released pursuant to specific disclosure authorization, away from a licensed facility as set forth in 95.36; measures relating to the protection of any NSI contained in these materials are provided for in the arrangements between the Government and the IAEA and are not the responsibility of the licensee. It should be noted, however, that no reproduction of NSI by the licensee is permitted except as provided under other portions of existing regulations.

One commenter suggested that the duration of the record keeping period be reduced from five years to two years, which would conform to other provisions of Part 95. Two years is considered inadequate, however, in view of the unique aspects arising out of the release of classified information to representatives of international organizations. Compromise of the information, should it occur, is less likely to come to the attention of United States officials within a two-year period. Moreover, the investigation of disclosures might be complicated by the need to make inquiries through diplomatic channels and by the inability to rely upon subpoenas and similar measures that are effectual only within the jurisdiction of the United States. In view of the national security interests involved, the small number of affected licensees, the low number of predicted visits, and the relatively small number of documents likely to be disclosed, the five-year requirement is not regarded as being unduly burdensome. However, in an effort to keep the burden as small as possible, the rule differs from that discussed with affected licensees by providing that records pertaining to documents to which inspectors have been permitted access (but which have not been released) may identify such documents by category rather than individually.

In view of the fact that each licensee subject to this rule upon entry into force of the Agreement has been afforded an opportunity to comment thereon, and since delay in promulgating this rule could result in actions inconsistent with the Agreement, and because there is involved a foreign affairs function of the United States, the NRC finds that notice of proposed rulemaking and public procedure thereon are unnecessary and contrary to the public interest.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Sections 552 and 553 of Title 5 of the United States Code, the following amendments to Part 95 of Title 10, Chapter 1, Code of Federal Regulations are published as a document subject to codification.

46 FR 58281
Published 12/1/81
Effective 12/1/81

Licensing Requirements for the Storage of Spent Fuel In an Independent Spent Fuel Storage Installation; Minor Clarifying and Conforming Amendments

See Part 72 Statements of Consideration

47 FR 9194
Published 3/4/82
Effective 4/5/82

Requirements for Access to and Protection of National Security Information and Restricted Data; Minor Amendments

See Part 25 Statements of Consideration

47 FR 38675
Published 9/2/82
Effective 10/2/82

Revision and Clarification of Criteria and Procedures for Determining Eligibility for Access to Restricted Data or National Security Information or an Employment Clearance and Conforming Amendments

See Part 10 Statements of Consideration

48 FR 24318
Published 6/1/83
Effective 6/27/83

Access to and Protection of National Security Information and Restricted Data

See Part 25 Statements of Consideration

48 FR 48644
Published 10/20/83

10 CFR Part 95

Access to and Protection of National Security Information and Restricted Data; Correction

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule; correction.

SUMMARY: This document corrects a final rule appearing in the **Federal Register** on June 1, 1983 (48 FR 24318) concerning access to and protection of National Security Information and Restricted Data, that, among other amendments, updated Appendix A to Part 95 in order to comply with Executive Order 12356. This correction is necessary to restore information that was inadvertently omitted as a result of the amendments to the Classification Guidance table appearing in Appendix A.

FOR FURTHER INFORMATION CONTACT: Richard A. Dopp, Policy and Operational Support Branch, Division of Security , Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: (301) 427-4415.

SUPPLEMENTARY INFORMATION: On June 1, 1983, the Nuclear Regulatory Commission published a final rule amending its regulations pertaining to the access to and protection of National Security Information and Restricted Data (48 FR 24318). In this document, the Classification Guidance portion of Appendix A to Part 95 was amended to require a determination by the originating agency before information may be declassified in place of the previously required review at the end of seven or 20 years.

However, the amendatory instruction necessary to accomplish this change was not complete. As a result, the acronyms necessary to complete the classification level and description of material in the Classification Guidance table were inadvertently omitted. This correction restores the omitted information. In order to avoid unnecessary confusion, the correction is accomplished by reprinting the entire Classification Guidance table.

In Appendix A to Part 95, the Classification Guidance table immediately following paragraph G is revised to read as follows (This correction supersedes amendatory instructions 22 and 23 in the June 1, 1983 final rule.):

48 FR 51903
Published 11/15/83

10 CFR Part 95

Access to and Protection of National Security Information and Restricted Data; Correction

In FR Doc. 83-28197 beginning on page 48644 in the issue of Thursday, October 20, 1983, make the following corrections:

1. On page 48647, "Classification Guidance" table, entry "294" in the first column, "U." should appear adjacent to the first line.
2. On page 48648, "Classification Guidance" table, entry "341", in the second column, "U." should appear adjacent to the first line.

≫49 FR 19623
Published 5/9/84
Effective 5/9/84

Information Collection Requirements; Display of OMB Control Numbers

See Part 0 Statements of Consideration

PART 100

REACTOR SITE CRITERIA

Sec.
100.1 Purpose.
100.2 Scope.
100.3 Definitions.
100.8 Information collection requirements: OBM approval.

SITE EVALUATION FACTORS

100.10 Factors to be considered when evaluating sites.
100.11 Determination of exclusion area, low population zone, and population center distance.

APPENDIX A – Seismic and Geologic Siting Criteria for Nuclear Power Plants

AUTHORITY: Secs. 202, Pub. L. 93-438, 88 Stat. 1244 (42 U.S.C. 5842)

§ 100.1 Purpose.

(a) It is the purpose of this part to describe criteria which guide the Commission in its evaluation of the suitability of proposed sites for stationary power and testing reactors subject to Part 50 of this chapter.

(b) Insufficient experience has been accumulated to permit the writing of detailed standards that would provide a quantitative correlation of all factors significant to the question of acceptability of reactor sites. This part is intended as an interim guide to identify a number of factors considered by the Commission in the evaluation of reactor sites and the general criteria used at this time as guides in approving or disapproving proposed sites. Any applicant who believes that factors other than those set forth in the guide should be considered by the Commission will be expected to demonstrate the applicability and significance of such factors.

§ 100.2 Scope.

(a) This part applies to applications filed under Part 50 of this chapter for stationary power and testing reactors.

(b) The site criteria contained in this part apply primarily to reactors of a general type and design on which experience has been developed, but can also be applied to other reactor types. In particular, for reactors that are novel in design and unproven as prototypes or pilot plants, it is expected that these basic criteria will be applied in a manner that takes into account the lack of experience. In the application of these criteria which are deliberately flexible, the safeguards provided—either site isolation or engineered features—should reflect the lack of certainty that only experience can provide.

27 FR 3509

§ 100.3 Definitions.

As used in this part:

(a) "Exclusion area" means that area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area. This area may be traversed by a highway, railroad, or waterway, provided these are not so close to the facility as to interfere with normal operations of the facility and provided appropriate and effective arrangements are made to control traffic on the highway, railroad, or waterway, in case of emergency, to protect the public health and safety. Residence within the exclusion area shall normally be prohibited. In any event, residents shall be subject to ready removal in case of necessity. Activities unrelated to operation of the reactor may be permitted in an exclusion area under appropriate limitations, provided that no significant hazards to the public health and safety will result.

(b) "Low population zone" means the area immediately surrounding the exclusion area which contains residents, the total number and density of which are such that there is a reasonable probability that appropriate protective measures could be taken in their behalf in the event of a serious accident. These guides do not specify a permissible population density or total population within this zone because the situation may vary from case to case. Whether a specific number of people can, for example, be evacuated from a specific area, or instructed to take shelter, on a timely basis will depend on many factors such as location, number and size of highways, scope and extent of advance planning, and actual distribution of residents within the area.

(c) "Population center distance" means the distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents.

(d) "Power reactor" means a nuclear reactor of a type described in § 50.21(b) or 50.22 of this chapter designed to produce electrical or heat energy.

(e) "Testing reactor" means a "testing facility" as defined in § 50.2 of this chapter.

27 FR 3509

§ 100.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150–0093.

(b) The approved information collection requirements contained in this part appear in Appendix A.

49 FR 19623

SITE EVALUATION FACTORS

§ 100.10 Factors to be considered when evaluating sites.

Factors considered in the evaluation of sites include those relating both to the proposed reactor design and the characteristics peculiar to the site. It is expected that reactors will reflect through their design, construction and operation an extremely low probability for accidents

27 FR 3509

that could result in release of significant quantities of radioactive fission products. In addition, the site location and the engineered features included as safeguards against the hazardous consequences of an accident, should one occur, should insure a low risk of public exposure. In particular, the Commission will take the following factors into consideration in determining the acceptability of a site for a power or testing reactor:

(a) Characteristics of reactor design and proposed operation including:

(1) Intended use of the reactor including the proposed maximum power level and the nature and inventory of contained radioactive materials;

(2) The extent to which generally accepted engineering standards are applied to the design of the reactor; 27 FR 3509

(3) The extent to which the reactor incorporates unique or unusual features having a significant bearing on the probability or consequences of accidental release of radioactive materials;

(4) The safety features that are to be engineered into the facility and those barriers that must be breached as a result of an accident before a release of radioactive material to the environment can occur.

(b) Population density and use characteristics of the site environs, including the exclusion area, low population zone, and population center distance.

(c) Physical characteristics of the site, including seismology, meteorology, geology and hydrology.

(1) Appendix A, "Seismic and Geologic Siting Criteria for Nuclear Power Plants," describes the nature of investigations required to obtain the geologic and seismic data necessary to determine site suitability and to provide reasonable assurance that a nuclear power plant can be constructed and operated at a proposed site without undue risk to the health and safety of the public. It describes procedures for determining the quantitative vibratory ground motion design basis at a site due to earthquakes and describes information needed to determine whether and to what extent a nuclear power plant need be designed to withstand the effects of surface faulting. 38 FR 31279

(2) Meteorological conditions at the site and in the surrounding area should be considered. 27 FR 3509

(3) Geological and hydrological characteristics of the proposed site may have a bearing on the consequences of an escape of radioactive material from the facility. Special precautions should be planned if a reactor is to be located at a site where a significant quantity of radioactive effluent might accidentally flow into nearby streams or rivers or might find ready access to underground water tables.

(d) Where unfavorable physical characteristics of the site exist, the proposed site may nevertheless be found to be acceptable if the design of the facility includes appropriate and adequate compensating engineering safeguards.

§ 100.11 Determination of exclusion area, low population zone, and population center distance.

(a) As an aid in evaluating a proposed site, an applicant should assume a fission produce release[1] from the core, the expected demonstrable leak rate from the containment and the meteorological conditions pertinent to his site to derive an exclusion area, a low population zone and population center distance. For the purpose of this analysis, which shall set forth the basis for the numerical values used, the applicant should determine the following: 27 FR 3509

(1) An exclusion area of such size that an individual located at any point on its boundary for two hours immediately following onset of the postulated fission product release would not receive a total radiation dose to the whole body in excess of 25 rem[2] or a total radiation dose in excess of 300 rem[2] to the thyroid from iodine exposure.

(2) A low population zone of such size that an individual located at any point on its outer boundary who is exposed to the radioactive cloud resulting from the postulated fission product release (during the entire period of its passage) would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose in excess of 300 rem to the thyroid from iodine exposure.

(3) A population center distance of at least one and one-third times the distance from the reactor to the outer boundary of the low population zone. In applying this guide, the boundary of the population center shall be determined upon consideration of population distribution. Political boundaries are not controlling in the application of this guide. Where very large cities are involved, a greater distance may be necessary because of total integrated population dose consideration. 40 FR 26526

(b) For sites for multiple reactor facilities consideration should be given to the following:

(1) If the reactors are independent to the extent that an accident in one reactor would not initiate an accident in another, the size of the exclusion area, low population zone and population center distance shall be fulfilled with respect to each reactor individually. The envelopes of the plan overlay of the areas so calculated shall then be taken as their respective boundaries. 27 FR 3509

(2) If the reactors are interconnected to the extent that an accident in one reactor could affect the safety of operation of any other, the size of the exclusion area, low population zone and population center distance shall be based upon the assumption that all interconnected reactors emit their postulated fission product releases simultaneously. This requirement may be reduced in relation to the degree of coupling between reactors, the probability of concomitant accidents and the probability that an individual would not be exposed to the radiation effects from simultaneous releases. The applicant would be expected to justify to the

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[1] The fission product release assumed for these calculations should be based upon a major accident, hypothesized for purposes of site analysis or postulated from considerations of possible accidental events, that would result in potential hazards not exceeded by those from any accident considered credible. Such accidents have generally been assumed to result in substantial meltdown of the core with subsequent release of appreciable quantities of fission products.

[2] The whole body dose of 25 rem referred to above corresponds numerically to the once in a lifetime accidental or emergency dose for radiation workers which, according to NCRP recommendations may be disregarded in the determination of their radiation exposure status (see NBS Handbook 69 dated June 5, 1959). However, neither its use nor that of the 300 rem value for thyroid exposure as set forth in these site criteria guides are intended to imply that these numbers constitute acceptable limits for emergency doses to the public under accident conditions. Rather, this 25 rem whole body value and the 300 rem thyroid value have been set forth in these guides as reference values, which can be used in the evaluation of reactor sites with respect to potential reactor accidents of exceedingly low probability of occurrence, and low risk of public exposure to radiation.

satisfaction of the Commission the basis for such a reduction in the source term.

(3) The applicant is expected to show that the simultaneous operation of multiple reactors at a site will not result in total radioactive effluent releases beyond the allowable limits of applicable regulations.

Note: For further guidance in developing the exclusion area, the low population zone, and the population center distance, reference is made to Technical Information Document 14844, dated March 23, 1962, which contains a procedural method and a sample calculation that result in distances roughly reflecting current siting practices of the Commission. The calculations described in Technical Information Document 14844 may be used as a point of departure for consideration of particular site requirements which may result from evaluation of the characteristics of a particular reactor, its purpose and method of operation. 27 FR 3509

Copies of Technical Information Document 14844 may be obtained from the Commission's Public Document Room, 1717 H Street NW., Washington, D.C., or by writing the Director of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. 31 FR 4668

APPENDIX A.–SEISMIC AND GEOLOGIC SITING CRITERIA FOR NUCLEAR POWER PLANTS

I. PURPOSE

General Design Criterion 2 of Appendix A to Part 50 of this chapter requires that nuclear power plant structures, systems, and components important to safety be designed to withstand the effects of natural phenomena such as earthquakes, tornadoes, hurricanes, floods, tsunami, and seiches without loss of capability to perform their safety functions. It is the purpose of these criteria to set forth the principal seismic and geologic considerations which guide the Commission in its evaluation of the suitability of proposed sites for nuclear power plants and the suitability of the plant design bases established in consideration of the seismic and geologic characteristics of the proposed sites.

These criteria are based on the limited geophysical and geological information available to date concerning faults and earthquake occurrence and effect. They will be revised as necessary when more complete information becomes available.

II. SCOPE

These criteria, which apply to nuclear power plants, describe the nature of the investigations required to obtain the geologic and seismic data necessary to determine site suitability and provide reasonable assurance that a nuclear power plant can be constructed and operated at a proposed site without undue risk to the health and safety of the public. They describe procedures for determining the quantitative vibratory ground motion design basis at a site due to earthquakes and describe information needed to determine whether and to what extent a nuclear power plant need be designed to withstand the effects of surface faulting. Other geologic and seismic factors required to be taken into account in the siting and design of nuclear power plants are identified. 38 FR 31279

The investigations described in this appendix are within the scope of investigations permitted by § 50.10(c)(1) of this chapter.

Each applicant for a construction permit shall investigate all seismic and geologic factors that may affect the design and operation of the proposed nuclear power plant irrespective of whether such factors are explicitly included in these criteria. Additional investigations and/or more conservative determinations than those included in these criteria may be required for sites located in areas having complex geology or in areas of high seismicity. If an applicant believes that the particular seismology and geology of a site indicate that some of these criteria, or portions thereof, need not be satisfied, the specific sections of these criteria should be identified in the license application, and supporting data to justify clearly such departures should be presented.

These criteria do not address investigations of volcanic phenomena required for sites located in areas of volcanic activity. Investigations of the volcanic aspects of such sites will be determined on a case-by-case basis.

III. DEFINITIONS

As used in these criteria:

(a) The "magnitude" of an earthquake is a measure of the size of an earthquake and is related to the energy released in the form of seismic waves. "Magnitude" means the numerical value on a Richter scale.

(b) The "intensity" of an earthquake is a measure of its effects on man, on man-built structures, and on the earth's surface at a particular location. "Intensity" means the numerical value on the Modified Mercalli scale.

(c) The "Safe Shutdown Earthquake"[1] is that earthquake which is based upon an evaluation of the maximum earthquake potential considering the regional and local geology and seismology and specific characteristics of local subsurface material. It is that earthquake which produces the maximum vibratory ground motion for which certain structures, systems, and components are designed to remain functional. These structures, systems, and components are those necessary to assure:

(1) The integrity of the reactor coolant pressure boundary,

(2) The capability to shut down the reactor and maintain it in a safe shutdown condition, or

(3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of this part.

(d) The "Operating Basis Earthquake" is that earthquake which, considering the regional and local geology and seismology and specific characteristics of local subsurface material, could reasonably be expected to affect the plant site during the operating life of the plant; it is that earthquake which produces the vibratory growth motion for which those features of the nuclear power plant necessary for continued operation without undue risk to the health and safety of the public are designed to remain functional. 38 FR 31279

(e) A "fault" is a tectonic structure along which differential slippage of the adjacent earth materials has occurred parallel to the fracture plane. It is distinct from other types of ground disruptions such as landslides, fissures, and craters. A fault may have gouge or breccia between its two walls and includes any associated monoclinal flexure or other similar geologic structural feature.

(f) "Surface faulting" is differential ground displacement at or near the surface caused directly by fault movement and is distinct from nontectonic types of ground disruptions, such as landslides, fissures, and craters.

(g) A "capable fault" is a fault which has exhibited one or more of the following characteristics:

(1) Movement at or near the ground surface at least once within the past 35,000 years or movement of a recurring nature within the past 500,000 years.

(2) Macro-seismicity instrumentally determined with records of sufficient precision to demonstrate a direct relationship with the fault.

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[1] The "Safe Shutdown Earthquake" defines that earthquake which has commonly been referred to as the "Design Basis Earthquake."

(3) A structural relationship to a capable fault according to characteristics (1) or (2) of this paragraph such that movement on one could be reasonably expected to be accompanied by movement on the other.

In some cases, the geologic evidence of past activity at or near the ground surface along a particular fault may be obscured at a particular site. This might occur, for example, at a site having a deep overburden. For these cases, evidence may exist elsewhere along the fault from which an evaluation of its characteristics in the vicinity of the site can be reasonably based. Such evidence shall be used in determining whether the fault is a capable fault within this definition.

Notwithstanding the foregoing paragraphs III(g)(1), (2) and (3), structural association of a fault with geologic structural features which are geologically old (at least pre-Quaternary) such as many of those found in the Eastern region of the United States shall, in the absence of conflicting evidence, demonstrate that the fault is not a capable fault within this definition.

(h) A "tectonic province" is a region of the North American continent characterized by a relative consistency of the geologic structural features contained therein.

(i) A "tectonic structure" is a large scale dislocation or distortion within the earth's crust. Its extent is measured in miles.

(j) A "zone requiring detailed faulting investigation" is a zone within which a nuclear power reactor may not be located unless a detailed investigation of the regional and local geologic and seismic characteristics of the site demonstrates that the need to design for surface faulting has been properly determined.

(k) The "control width" of a fault is the maximum width of the zone containing mapped fault traces, including all faults which can be reasonably inferred to have experienced differential movement during Quaternary times and which join or can reasonably be inferred to join the main fault trace, measured within 10 miles along the fault's trend in both directions from the point of nearest approach to the site. (See Figure 1 of this appendix.)

38 FR 31279

(l) A "response spectrum" is a plot of the maximum responses (acceleration, velocity or displacement) of a family of idealized single-degree-of-freedom damped oscillators against natural frequencies (or periods) of the oscillators to a specified vibratory motion input at their supports.

IV. REQUIRED INVESTIGATIONS

The geologic, seismic and engineering characteristics of a site and its environs shall be investigated in sufficient scope and detail to provide reasonable assurance that they are sufficiently well understood to permit an adequate evaluation of the proposed site, and to provide sufficient information to support the determinations required by these criteria and to permit adequate engineering solutions to actual or potential geologic and seismic effects at the proposed site. The size of the region to be investigated and the type of data pertinent to the investigations shall be determined by the nature of the region surrounding the proposed site. The investigations shall be carried out by a review of the pertinent literature and field investigations and shall include the steps outlined in paragraphs (a) through (c) of this section.

(a) *Required Investigation for Vibratory Ground Motion.* The purpose of the investigations required by this paragraph is to obtain information needed to describe the vibratory ground motion produced by the Safe Shutdown Earthquake. All of the steps in paragraphs (a)(5) through (a)(8) of this section need not be carried out if the Safe Shutdown Earthquake can be clearly established by investigations and determinations of a lesser scope. The investigations required by this paragraph provide an adequate basis for selection of an Operating Basis Earthquake. The investigations shall include the following:

(1) Determination of the lithologic, stratigraphic, hydrologic, and structural geologic conditions of the site and the region surrounding the site, including its geologic history;

(2) Identification and evaluation of tectonic structures underlying the site and the region surrounding the site, whether buried or expressed at the surface. The evaluation should consider the possible effects caused by man's activities such as withdrawal of fluid from or addition of fluid to the subsurface, extraction of minerals, or the loading effects of dams or reservoirs;

(3) Evaluation of physical evidence concerning the behavior during prior earthquakes of the surficial geologic materials and the substrata underlying the site from the lithologic, stratigraphic, and structural geologic studies;

38 FR 31279

(4) Determination of the static and dynamic engineering properties of the materials underlying the site. Included should be properties needed to determine the behavior of the underlying material during earthquakes and the characteristics of the underlying material in transmitting earthquake-induced motions to the foundations of the plant, such as seismic wave velocities, density, water content, porosity, and strength;

38 FR 31279

(5) Listing of all historically reported earthquakes which have affected or which could reasonably be expected to have affected the site, including the date of occurrence and the following measured or estimated data: magnitude or highest intensity, and a plot of the epicenter or location of highest intensity. Where historically reported earthquakes could have caused a maximum ground acceleration of at least one-tenth the acceleration of gravity (0.1g) at the foundations of the proposed nuclear power plant structures, the acceleration or intensity and duration of ground shaking at these foundations shall also be estimated. Since earthquakes have been reported in terms of various parameters such as magnitude, intensity at a given location, and effect on ground, structures, and people at a specific location, some of these data may have to be estimated by use of appropriate empirical relationships. The comparative characteristics of the material underlying the epicentral location or region of highest intensity and of the material underlying the site in transmitting earthquake vibratory motion shall be considered;

(6) Correlation of epicenters or locations of highest intensity of historically reported earthquakes, where possible, with tectonic structures any part of which is located within 200 miles of the site. Epicenters or locations of highest intensity which cannot be reasonably correlated with tectonic structures shall be identified with tectonic provinces any part of which is located within 200 miles of the site;

(7) For faults, any part of which is within 200 miles[2] of the site and which may be of significance in establishing the Safe Shutdown Earthquake, determination of whether these faults are to be considered as capable faults.[3,4] This determination is required in order to permit appropriate consideration of the geologic history of such faults in establishing the Safe Shutdown Earthquake. For guidance in determining which faults may be of significance in determining the Safe Shutdown Earthquake, Table 1 of this appendix presents the minimum length of fault to be considered versus distance from site. Capable faults of lesser length than those indicated in Table 1 and faults which are not capable faults need not be considered in determining the Safe Shutdown Earthquake, except where unusual circumstances indicate such consideration is appropriate;

Table 1

Distance from the site (miles):	*Minimum length*[a]
0 to 20	1
Greater than 20 to 50	5
Greater than 50 to 100	10
Greater than 100 to 150	20
Greater than 150 to 200	40

[a] Minimum length of fault (miles) which shall be considered in establishing Safe Shutdown Earthquake.

(8) For capable faults, any part of which is within 200 miles[2] of the site and which may be of significance in establishing the Safe Shutdown Earthquake, determination of:

(i) The length of the fault;

(ii) The relationship of the fault to regional tectonic structures; and

(iii) The nature, amount, and geologic history of displacements along the fault, including particularly the estimated amount of the maximum Quaternary displacement related to any one earthquake along the fault.

(b) *Required Investigation for Surface Faulting.* The purpose of the investigations required by this paragraph is to obtain information to determine whether and to what extent the nuclear power plant need be designed for surface faulting. If the design basis for surface faulting can be clearly established by investigations of a lesser scope, not all of the steps in paragraphs (b)(4) through (b)(7) of this section need be carried out. The investigations shall include the following:

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[2] If the Safe Shutdown Earthquake can be associated with a fault closer than 200 miles to the site, the procedures of paragraphs (a)(7) and (a)(8) of this section need not be carried out for successively more remote faults.

[3] In the absence of absolute dating, evidence of recency of movement may be obtained by applying relative dating technique to ruptured, offset, warped or otherwise structurally disturbed surface or near surface materials or geomorphic features.

[4] The applicant shall evaluate whether or not a fault is a capable fault with respect to the characteristics outlined in paragraphs III(g)(1), (2), and (3) by conducting a reasonable investigation using suitable geologic and geophysical techniques.

(1) Determination of the lithologic, stratigraphic, hydrologic, and structural geologic conditions of the site and the area surrounding the site, including its geologic history;

(2) Evaluation of tectonic structures underlying the site, whether buried or expressed at the surface, with regard to their potential for causing surface displacement at or near the site. The evaluation shall consider the possible effects caused by man's activities such as withdrawal of fluid from or addition of fluid to the subsurface, extraction of minerals, or the loading effects of dams or reservoirs;

(3) Determination of geologic evidence of fault offset at or near the ground surface at or near the site;

(4) For faults greater than 1000 feet long, any part of which is within 5 miles[5] of the site, determination of whether these faults are to be considered as capable faults;[6, 7]

(5) Listing of all historically reported earthquakes which can reasonably be associated with capable faults greater than 1000 feet long, any part of which is within 5 miles[5] of the site, including the date of occurrence and the following measured or estimated data: magnitude or highest intensity, and a plot of the epicenter or region of highest intensity; 38 FR 31279

(6) Correlation of epicenters or locations of highest intensity of historically reported earthquakes with capable faults greater than 1000 feet long, any part of which is located within 5 miles[5] of the site;

(7) For capable faults greater than 1000 feet long, any part of which is within 5 miles[5] of the site, determination of:

(i) The length of the fault;

(ii) The relationship of the fault to regional tectonic structures;

(iii) The nature, amount, and geologic history of displacements along the fault, including particularly the estimated amount of the maximum Quaternary displacement related to any one earthquake along the fault; and

(iv) The outer limits of the fault established by mapping Quaternary fault traces for 10 miles along its trend in both directions from the point of its nearest approach to the site.

(c) *Required Investigation for Seismically Induced Floods and Water Waves.* (1) For coastal sites, the investigations shall include the determination of:

(i) Information regarding distantly and locally generated waves or tsunami which have affected or could have affected the site. Available evidence regarding the runup and drawdown associated with historic tsunami in the same coastal region as the site shall also be included;

(ii) Local features of coastal topography which might tend to modify tsunami runup or drawdown. Appropriate available evidence regarding historic local modifications in tsunami runup or drawdown at coastal locations having topography similar to that of the site shall also be obtained; and

(iii) Appropriate geologic and seismic evidence to provide information for establishing the design basis for seismically induced floods or water waves from a local offshore earthquake, from local offshore effects of an onshore earthquake, or from coastal subsidence. This evidence shall be determined, to the extent practical, by a procedure similar to that required in paragraphs (a) and (b) of this section. The probable slip characteristics of offshore faults shall also be considered as well as the potential for offshore slides in submarine material.

(2) For sites located near lakes and rivers, investigations similar to those required in paragraph (c)(1) of this section shall be carried out, as appropriate, to determine the potential for the nuclear power plant to be exposed to seismically induced floods and water waves as, for example, from the failure during an earthquake of an upstream dam or from slides of earth or debris into a nearby lake. 38 FR 31279

V. SEISMIC AND GEOLOGIC DESIGN BASES

(a) *Determination of Design Basis for Vibratory Ground Motion.* The design of each nuclear power plant shall take into account the potential effects of vibratory ground motion caused by earthquakes. The design basis for the maximum vibratory ground motion and the expected vibratory ground motion should be determined through evaluation of the seismology, geology, and the seismic and geologic history of the site and the surrounding region. The most severe earthquakes associated with tectonic structures or tectonic provinces in the region surrounding the site should be identified, considering those historically reported earthquakes that can be associated with these structures or provinces and other relevant factors. If faults in the region surrounding the site are capable faults, the most severe earthquakes associated with these faults should be determined by also considering their geologic history. The vibratory ground motion at the site should be then determined by assuming that the epicenters or locations of highest intensity of the earthquakes are situated at the point on the tectonic structures or tectonic provinces nearest to the site. The earthquake which could cause the maximum vibratory ground motion at the site should be designated the Safe Shutdown Earthquake. The specific procedures for determining the design basis for vibratory ground motion are given in the following paragraphs. 38 FR 31279 42 FR 2051

(1) *Determination of Safe Shutdown Earthquake.* The Safe Shutdown Earthquake shall be identified through evaluation of seismic and geologic information developed pursuant to the requirements of paragraph IV(a), as follows: 38 FR 31279

(i) The historic earthquakes of greatest magnitude or intensity which have been correlated with tectonic structures pursuant to the requirements of paragraph (a)(6) of Section IV shall be determined. In addition, for capable faults, the information required by paragraph (a)(8) of Section IV shall also be taken into account in determining the earthquakes of greatest magnitude related to the faults. The magnitude or intensity of earthquakes based on geologic evidence may be larger than that of the maximum earthquakes historically recorded. The accelerations at the site shall be determined assuming that the epicenters of the earthquakes of greatest magnitude or the locations of highest intensity related to the tectonic structures are situated at the point on the structures closest to the site;

(ii) Where epicenters or locations of highest intensity of historically reported earthquakes cannot be reasonably related to tectonic structures but are identified pursuant to the requirements of paragraph (a)(6) of Section IV with tectonic provinces in which the site is located, the accelerations at the site shall be determined assuming that these earthquakes occur at the site. 38 FR 31279

(iii) Where epicenters or locations of the highest intensity of historically reported earthquakes cannot be reasonably related to tectonic structures but are identified pursuant to the requirements of paragraph (a)(6) of Section IV with tectonic provinces in which the site is not located, the accelerations at the site shall be determined assuming that the epicenters or locations of highest intensity of these earthquakes are at the closest point to the site on the boundary of the tectonic province;

(iv) The earthquake producing the maximum vibratory acceleration at the site, as determined from paragraph (a)(1)(i) through (iii) of this section shall be designated the Safe Shutdown Earthquake for vibratory ground motion, except as noted in paragraph (a)(1)(v) of this section. The characteristics of the Safe Shutdown Earthquake shall be derived from more than one earthquake determined from paragraph (a)(1)(i) through (iii) of this section, where necessary to assure that the maximum vibratory acceleration at the site throughout the frequency range of interest is included. In the case where a causative fault is near the site, the effect of proximity of an earthquake on the spectral characteristics of the Safe Shutdown Earthquake shall be taken into account.

The procedures in paragraphs (a)(1)(i) through (a)(1)(iii) of this section shall be applied in a conservative manner. The determinations carried out in accordance with paragraphs (a)(1)(ii) and (a)(1)(iii) shall assure that the safe shutdown earthquake intensity is, as a minimum, equal to the maximum historic earthquake intensity experienced within the tectonic province in which the site is located. In the event that geological and seismological data warrant, the Safe Shutdown Earthquake shall be larger than that derived by use of the procedures set forth in Section IV and V of the Appendix. 42 FR 2051

The maximum vibratory accelerations of the Safe Shutdown Earthquake at each of the various foundation locations of the nuclear power plant structures at a given site shall be determined taking into account the characteristics of the underlying soil material in transmitting the earthquake-induced motions, 38 FR 31279 obtained pursuant to paragraphs (a)(1), (3), and (4) of section IV. The Safe Shutdown Earthquake shall be defined by response spectra corresponding to the maximum vibratory accelerations as outlined in paragraph (a) of section VI; and

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[5] If the design basis for surface faulting can be determined from a fault closer than 5 miles to the site, the procedures of paragraphs (b)(4) through (b)(7) of this section need not be carried out for successively more remote faults.

[6] In the absence of absolute dating, evidence of recency of movement may be obtained by applying relative dating techniques to ruptured, offset, warped or otherwise structurally disturbed surface of near-surface materials or geomorphic features.

[7] The applicant shall evaluate whether or not a fault is a capable fault with respect to the characteristics outlined in paragraphs III(g)(1), (2), and (3) by conducting a reasonable investigation using suitable geologic and geophysical techniques.

(v) Where the maximum vibratory accelerations of the Safe Shutdown Earthquake at the foundations of the nuclear power plant structures are determined to be less than one-tenth the acceleration of gravity (0.1 g) as a result of the steps required in paragraphs (a)(1)(i) through (iv) of this section, it shall be assumed that the maximum vibratory accelerations of the Safe Shutdown Earthquake at these foundations are at least 0.1 g.

(2) *Determination of Operating Basis Earthquake.* The Operating Basis Earthquake shall be specified by the applicant after considering the seismology and geology of the region surrounding the site. If vibratory ground motion exceeding that of the Operating Basis Earthquake occurs, shutdown of the nuclear power plant will be required. Prior to resuming operations, the licensee will be required to demonstrate to the Commission that no functional damage has occurred to those features necessary for continued operation without undue risk to the health and safety of the public. The maximum vibratory ground acceleration of the Operating Basis Earthquake shall be at least one-half the maximum vibratory ground acceleration of the Safe Shutdown Earthquake.

38 FR 31279 (b) *Determination of Need to Design for Surface Faulting.* In order to determine whether a nuclear power plant is required to be designed to withstand the effects of surface faulting, the location of the nuclear power plant with respect to capable faults shall be considered. The area over which each of these faults has caused surface faulting in the past is identified by mapping its fault traces in the vicinity of the site. The fault traces are mapped along the trend of the fault for 10 miles in both directions from the point of its nearest approach to the nuclear power plant because, for example, traces may be obscured along portions of the fault. The maximum width of the mapped fault traces, called the control width, is then determined from this map. Because surface faulting has sometimes occurred beyond the limit of mapped fault traces or where fault traces have not been previously recognized, the control width of the fault is increased by a factor which is dependent upon the largest potential earthquake related to the fault. This larger width delineates a zone, called the zone requiring detailed faulting investigation, in which the possibility of surface faulting is to be determined. The following paragraphs outline the specific procedures for determining the zone requiring detailed faulting investigation for a capable fault.

(1) *Determination of Zone Requiring Detailed Faulting Investigation.* The zone requiring detailed faulting investigation for a capable fault which was investigated pursuant to the requirement of paragraph (b)(7) of Section IV shall be determined through use of the following table:

TABLE 2

Determination of Zone Requiring Detailed Faulting Investigation

Magnitude of earthquake:	*Width of zone requiring detailed faulting investigation (See fig. 1)*
Less than 5.5	1 x control width
5.5-6.4	2 x control width
6.5-7.5	3 x control width
Greater than 7.5	4 x control width

The largest magnitude earthquake related to the fault shall be used in Table 2. This earthquake shall be determined from the information developed pursuant to the requirements of paragraph (b) of Section IV for the fault, taking into account the information required by paragraph (b)(7) of Section IV. The control width used in Table 2 is determined by mapping the outer limits of the fault traces from information developed pursuant to paragraph (b)(7)(iv) of section IV. The control width shall be used in Table 2 unless the characteristics of the fault are obscured for a significant portion of the 10 miles on either side of the point of nearest approach to the nuclear power plant. In this event, the use in Table 2 of the width of mapped fault traces more than 10 miles from the point of nearest approach to the nuclear power plant may be appropriate.

38 FR 31279 The zone requiring detailed faulting investigation, as determined from Table 2, shall be used for the fault except where:

(i) The zone requiring detailed faulting investigation from Table 2 is less than one-half mile in width. In this case the zone shall be at least one-half mile in width; or

(ii) Definitive evidence concerning the regional and local characteristics of the fault justifies use of a different value. For example, thrust or bedding-plane faults may require an increase in width of the zone to account for the projected dip of the fault plane; or

(iii) More detailed three-dimensional information, such as that obtained from precise investigative techniques, may justify the use of a narrower zone. Possible examples of such techniques are the use of accurate records from closely spaced drill holes or from closely spaced, high-resolution offshore geophysical surveys.

In delineating the zone requiring detailed faulting investigation for a fault, the center of the zone shall coincide with the center of the fault at the point of nearest approach of the fault to the nuclear power plant as illustrated in Figure 1.

(c) *Determination of Design Bases for Seismically Induced Floods and Water Waves.* The size of seismically induced floods and water waves which could affect a site from either locally or distantly generated seismic activity shall be determined, taking into consideration the results of the investigation required by paragraph (c) of section IV. Local topographic characteristics which might tend to modify the possible runup and drawdon at the site shall be considered. Adverse tide conditions shall also be taken into account in determining the effect of the floods and waves on the site. The characteristics of the earthquake to be used in evaluating the offshore effects of local earthquakes shall be determined by a procedure similar to that used to determine the characteristics of the Safe Shutdown Earthquake in paragraph V(a).

(d) *Determination of Other Design Conditions.*—(1) *Soil Stability.* Vibratory ground motion associated with the Safe Shutdown Earthquake can cause soil instability due to ground disruption such as fissuring, differential consolidation, liquefaciton, and cratering which is not directly related to surface faulting The following geologic features which could affect the foundations of the proposed nuclear power plant structures shall be evaluated, taking into account the information concerning the physical properties of materials underlying the site developed pursuant to paragraphs (a)(1), (3), and (4) of Section IV and the effects of the Safe Shutdown Earthquake:

(i) Areas of actual or potential surface or subsurface subsidence, uplift, or collapse resulting from:

(*a*) Natural features such as tectonic depressions and cavernous or karst terrains, particularly those underlain by calcareous or other soluble deposits;

(*b*) Man's activities such as withdrawal of fluid from or addition of fluid to the subsurface, extraction of minerals, or the loading effects of dams or reservoirs; and

(*c*) Regional deformation.

(ii) Deformational zones such as shears, joints, fractures, folds, or combinations of these features.

38 FR 31279 (iii) Zones of alteration or irregular weathering profiles and zones of structural weakness composed of crushed or disturbed materials.

(iv) Unrelieved residual stresses in bedrock.

(v) Rocks or soils that might be unstable because of their mineralogy, lack of consolidation, water content, or potentially undesirable response to seismic or other events. Seismic response characteristics to be considered shall include liquefaction, thixotropy, differential consolidation, cratering, and fissuring.

(2) *Slope Stability.* Stability of all slopes, both natural and artificial, the failure of which could adversely affect the nuclear power plant, shall be considered. An assessment shall be made of the potential effects of erosion or deposition and of combinations of erosion or deposition with seismic activity, taking into account information concerning the physical property of the materials underlying the site developed pursuant to paragraph (a)(1), (3), and (4) of Section IV and the effects of the Safe Shutdown Earthquake.

(3) *Cooling Water Supply.* Assurance of adequate cooling water supply for emergency and long-term shutdown decay heat removal shall be considered in the design of the nuclear power plant, taking into account information concerning the physical properties of the materials underlying the site developed pursuant to paragraphs (a)(1), (3), and (4) of section IV and the effects of the Safe Shutdown Earthquake and the design basis for surface faulting. Consideration of river blockage or diversion or other failures which may block the flow of cooling water, coastal uplift or subsidence, or tsunami runup and drawdown, and failure of dams and intake structures shall be included in the evaluation, where appropriate.

(4) *Distant Structures.* Those structures which are not located in the immediate vicinity of the site but which are safety related shall be designed to withstand the effect of the Safe Shutdown Earthquake and the design basis for surface faulting determined on a comparable basis to that of the nuclear power plant, taking into account the material underlying the structures and the different location with respect to that of the site.

VI. APPLICATION TO ENGINEERING DESIGN

(a) *Vibratory Ground Motion.*–(1) *Safe Shutdown Earthquake.* The vibratory ground motion produced by the Safe Shutdown Earthquake shall be defined by response spectra corresponding to the maximum vibratory accelerations at the elevations of the foundations of the nuclear power plant structures determine pursuant to paragraph (a)(1) of Section V. The response spectra shall relate the response of the foundations of the nuclear power plant structures to the vibratory ground motion, considering such foundations to be single-degree-of-freedom damped oscillators and neglecting soil-structure interaction effects. In view of the limited data available on vibratory ground motions of strong earthquakes, it usually will be appropriate that the response spectra be smoothed design spectra developed from a series of response spectra related to the vibratory motions caused by more than one earthquake.

38 FR 31279

The nuclear power plant shall be designed so that, if the Safe Shutdown Earthquake occurs, certain structures, systems, and components will remain functional. These structures, systems, and components are those necessary to assure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe condition, or (iii) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of this part. In addition to seismic loads, including aftershocks, applicable concurrent functional and accident-induced loads shall be taken into account in the design of these safety-related structures, systems, and components. The design of the nuclear power plant shall also take into account the possible effects of the Safe Shutdown Earthquake on the facility foundations by ground disruption, such as fissuring, differential consolidation, cratering, liquefaction, and landsliding, as required in paragraph (d) of section V.

The engineering method used to ensure that the required safety functions are maintained during and after the vibratory ground motion associated with the Safe Shutdown Earthquake shall involve the use of either a suitable dynamic analysis or a suitable qualification test to demonstrate that structures, systems and components can withstand the seismic and other concurrent loads, except where it can be demonstrated that the use of an equivalent static load method provides adequate conservatism.

The analysis or test shall take into account soil-structure interaction effects and the expected duration of vibratory motion. It is permissible to design for strain limits in excess of yield strain in some of these safety-related structures, systems, and components during the Safe Shutdown Earthquake and under the postulated concurrent conditions, provided that the necessary safety functions are maintained.

(2) *Operating Basis Earthquake.* The Operating Basis Earthquake shall be defined by response spectra. All structures, systems, and components of the nuclear power plant necessary for continued operation without undue risk to the health and safety of the public shall be designed to remain functional and within applicable stress and deformation limits when subjected to the effects of the vibratory motion of the Operating Basis Earthquake in combination with normal operating loads. The engineering method used to ensure that these structures, systems, and components are capable of withstanding the effects of the Operating Basis Earthquake shall involve the use of either a suitable dynamic analysis or a suitable qualification test to demonstrate that the structures, systems and components can withstand the seismic and other concurrent loads, except where it can be demonstrated that the use of an equivalent static load method provides adequate conservatism. The analysis or test shall take into account soil-structure interaction effects and the expected duration of vibratory motion.

38 FR 31279

(3) *Required Seismic Instrumentation.* Suitable instrumentation shall be provided so that the seismic response of nuclear power plant features important to safety can be determined promptly to permit comparison of such response with that used as the design basis. Such a comparison is needed to decide whether the plant can continue to be operated safely and to permit such timely action as may be appropriate.

38 FR 31279

These criteria do not address the need for instrumentation that would automatically shut down a nuclear power plant when an earthquake occurs which exceeds a predetermined intensity. The need for such instrumentation is under consideration.

(b) *Surface Faulting.* (1) If the nuclear power plant is to be located within the zone requiring detailed faulting investigation, a detailed investigation of the regional and local geologic and seismic characteristics of the site shall be carried out to determine the need to take into account surface faulting in the design of the nuclear power plant. Where it is determined that surface faulting need not be taken into acouunt, sufficient data to clearly justify the determination shall be presented in the license application.

(2) Where it is determined that surface faulting must be taken into account, the applicant shall, in establishing the design basis for surface faulting on a site take into account evidence concerning the regional and local geologic and seismic characteristics of the site and from any other relevant data.

(3) The design basis for surface faulting shall be taken into account in the design of the nuclear power plant by providing reasonable assurance that in the event of such displacement during faulting certain structures, systems, and components will remain functional. These structures, systems, and components are those necessary to assure (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe shutdown condition, or (iii) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of this part. In addition to seismic loads, including aftershocks, applicable concurrent functional and accident-induced loads shall be taken into account in the design of such safety features. The design provisions shall be based on an assumption that the design basis for surface faulting can occur in any direction and azimuth and under any part of the nuclear power plant, unless evidence indicates this assumption is not appropriate, and shall take into account the estimated rate at which the surface faulting may occur.

(c) *Seismically Induced Floods and Water Waves and Other Design Conditions.* The design basis for seismically induced floods and water waves from either locally or distantly generated seismic activity and other design conditions determined pursuant to paragraphs (c) and (d) of Section V, shall be taken into account in the design of the nuclear power plant so as to prevent undue risk to the health and safety of the public.

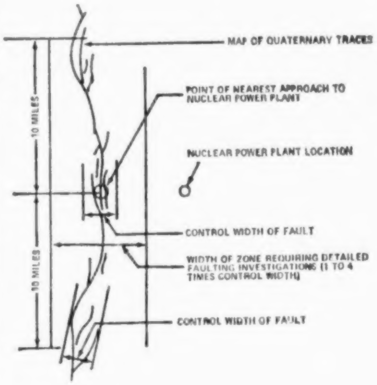
MAP OF QUATERNARY TRACES
POINT OF NEAREST APPROACH TO NUCLEAR POWER PLANT
NUCLEAR POWER PLANT LOCATION
CONTROL WIDTH OF FAULT
WIDTH OF ZONE REQUIRING DETAILED FAULTING INVESTIGATIONS (1 TO 4 TIMES CONTROL WIDTH)
CONTROL WIDTH OF FAULT
10 MILES
10 MILES

FIGURE 1–DIAGRAMMATIC ILLUSTRATION OF DELINEATION OF WIDTH OF ZONE REQUIRING DETAILED FAULTING INVESTIGATIONS FOR SPECIFIC NUCLEAR POWER PLANT LOCATION.

PART 100

REACTOR SITE CRITERIA

PROPOSED RULE MAKING

43 FR 2729
Published 1/19/78
Comment period expires 3/1/78

[10 CFR Part 100]

SEISMIC AND GEOLOGIC SITING CRITERIA FOR NUCLEAR POWER PLANTS

Reassessment of Current Criteria

On November 13, 1973, the Atomic Energy Commission published in the FEDERAL REGISTER (38 FR 1271) amendments to its regulations which adopted Appendix A, "Seismic and Geologic Siting Criteria for Nuclear Power Plants" to 10 CFR Part 100, "Reactor Site Criteria," as a rule to be effective December 13, 1973. In view of the experience gained in the application of the procedures and methods set forth therein, the difficulties encountered, and the rapid advancement in the state-of-the-art of earth sciences, the staff of the Offices of Standards Development and Nuclear Reactor Regulation of the U.S. Nuclear Regulatory Commission have initiated a reassessment of the appendix to determine the need for its revision.

To aid the staff in this reassessment, all interested persons are invited to submit information, comments, and suggestions. The staff is particularly interested in finding out about problems that have arisen in the application of Appendix A. Commenters are invited to state the nature of the problems encountered and describe them in detail. Corrective actions should also be recommended.

After comments, information, and suggestions have been received and considered, the staff will publish the results of its reassessment as a preliminary value/impact statement and, if appropriate, recommend to the Commission that rulemaking be initiated.

Interested persons should send information, comments, and suggestions by March 1, 1978 to Mr. Leon L. Beratan, Chief, Site Safety Standards Branch, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Copies of the comments received will be available for examination in the NRC Public Document Room, 1717 H Street NW., Washington, D.C.

45 FR 50350
Published 7/29/80
Comment period expires 9/29/80

Modification of the Policy and
Regulatory Practice Governing
the Siting of Nuclear Power Reactors

See Part 50 Proposed Rule Making

45 FR 79820
Published 12/2/80
Comment period expires 1/16/81

Environmental Impact Statement for
Reactor Siting Criteria

See Part 50 Proposed Rule Making

PART 100

REACTOR SITE CRITERIA

PETITIONS FOR RULE MAKING

[Docket No. PRM-100-2]

PUBLIC INTEREST RESEARCH GROUP, ET AL.

Filing of Petition for Rule Making

Notice is hereby given that Louis J. Sirico, Jr., Esq., has filed with the Nuclear Regulatory Commission a petition for rule making dated June 1, 1976, on behalf of the Public Interest Research Group, 1832 M Street N.W., Suite 101, Washington, D.C., and 25 other specified citizen groups.

The petitioners request the Commission to amend its regulation "Reactor Site Criteria," 10 CFR Part 100, to set numerical limits on allowable population density around nuclear reactor sites. The petitioners state that despite an official policy against building reactors near cities, both the Nuclear Regulatory Commission and its predecessor, the Atomic Energy Commission, have permitted utilities to build nuclear reactors too close to metropolitan areas. It is the view of petitioners that reliance on broad policy statements and regulatory guides in this matter is inadequate, and the current Commission policy should be put into regulatory form. The petitioners propose forbidding reactors where the surrounding population exceeds or will exceed specified numerical limits. The petitioners propose criteria which would limit permissible population density to 400 people per square mile out to a distance of 40 miles.

In support of the proposal the petitioners make the following arguments:

a. Population density is an important criterion in siting policy;

b. The Commission should articulate its siting policy on population density in regulatory form; and

c. Petitioners' proposal sets out a sound regulatory scheme.

The amendments of 10 CFR 100.11(a) proposed by petitioners would set 0.4 miles and 3 miles as the minimum distances for the outer boundaries of the exclusion area and the low population zone, respectively.

The amendments of Part 100 proposed by petitioners would add a new section 100.12 setting out criteria for population density for proposed nuclear reactor sites. The standards proposed by petitioners would set a maximum population density of 400 persons per square mile averaged over any radial distance out to a distance of 40 miles. The petitioners propose that the Commission deny construction permit applications for sites which would exceed the ceiling at the time of initial plant operation. The petitioners also propose that the Commission deny a construction permit application where population projections indicate that during the effective period of the plant's license, the population density would exceed 800 persons per square mile averaged over any radial distance out to a distance of 40 miles.

Under the petitioners' proposal it would be required that all population figures and projections include transient populations.

The text of the petitioners' proposed amendments to § 100.11(a) and the proposed new § 100.12 is set out in the petition.

A copy of the petition for rule making is available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

All persons who desire to submit written comments or suggestions concerning the petition for rule making should send their comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section by August 30, 1976.

Dated at Washington, D.C., this 29th day of June.

For the Nuclear Regulatory Commission.

PART 100

REACTOR SITE CRITERIA

STATEMENTS OF CONSIDERATION

27 FR 3509
Published 4/12/62
Effective 5/12/62

Pursuant to the Administrative Procedures Act and the Atomic Energy Act of 1954, as amended, the following guide is published as a document subject to codification, to be effective 30 days after publication in the Federal Register.

Statement of considerations. On February 11, 1961, the Atomic Energy Commission published in the Federal Register a notice of proposed rule making that set forth general criteria in the form of guides and factors to be considered in the evaluation of proposed sites for power and testing reactors. The Commission has received many comments from individuals and organizations, including several from foreign countries, reflecting the widespread sensitivity and importance of the subject of site selection for reactors. Formal communications have been received on the published guides, including a proposed comprehensive revision of the guides into an alternate form.

In these communications, there was almost unanimous support of the Commission's proposal to issue guidance in some form on site selections, and acceptance of the basic factors included in the proposed guides, particularly in the proposal to issue exposure dose values which could be used for reference in the evaluation of reactor sites with respect to potential reactor accidents of exceedingly low probability of occurrence.

On the other hand, many features of the proposed guides were singled out for criticism by a large proportion of the correspondents. This was particularly the case for the appendix section of the proposed guides, in which was included an example calculation of environmental distance characteristics for a hypothetical reactor. In this appendix, specific numerical values were employed in the calculations. The choice of these numerical values, in some cases involving simplifying assumptions of highly complex phenomena, represent types of considerations presently applied in site calculations and result in environmental distance parameters in general accord with present siting practice. Nevertheless, these particular numerical values and the use of a single example calculation were widely objected to, basically on the grounds that they presented an aspect of inflexibility to the guides which otherwise appeared to possess considerable flexibility and tended to emphasize unduly the concept of environmental isolation for reactors with minimum possibility being extended for eventual substitution thereof of engineered safeguard.

In consequence of these many comments, criticisms and recommendations, the proposed guides have been rewritten, with incorporation of a number of suggestions for clarification and simplification, and elimination of the numerical values and example calculation formerly constituting the appendix to the guides. In lieu of the appendix, some guidance has been incorporated in the text itself to indicate the considerations that led to establishing the exposure values set forth. However, in recognition of the advantage of example calculations in providing preliminary guidance to application of the principles set forth, the AEC will publish separately in the form of a technical information document a discussion of these calculations.

These guides and the technical information document are intended to reflect past practice and current policy of the Commission of keeping stationary power and test reactors away from densely populated centers. It should be equally understood, however, that applicants are free and indeed encouraged to demonstrate to the Commission the applicability and significance of considerations other than those set forth in the guides.

One basic objective of the criteria is to assure that the cumulative exposure dose to large numbers of people as a consequence of any nuclear accident should be low in comparison with what might be considered reasonable for total population dose. Further, since accidents of greater potential hazard than those commonly postulated as representing an upper limit are conceivable, although highly improbable, it was considered desirable to provide for protection against excessive exposure doses to people in large centers, where effective protective measures might not be feasible. Neither of these objectives were readily achievable by a single criterion. Hence, the population center distance was added as a site requirement when it was found for several projects evaluated that the specification of such a distance requirement would approximately fulfill the desired objectives and reflect a more accurate guide to current siting practices. In an effort to develop more specific guidance on the total man-dose concept, the Commission intends to give further study to the subject. Meanwhile, in some cases where very large cities are involved, the population center distance may have to be greater than those suggested by these guides.

A number of comments received pointed out that AEC siting factors included considerations of population distributions and land use surrounding proposed sites but did not indicate how future population growth might affect sites initially approved. To the extent possible, AEC review of the land use surrounding a proposed site includes considerations of potential residential growth. The guides tend toward requiring sufficient isolation to preclude any immediate problem. In the meantime, operating experience that will be acquired from plants already licensed to operate should provide a more definitive basis for weighing the effectiveness of engineered safeguards versus plant isolation as a public safeguard.

These criteria are based upon a weighing of factors characteristic of conditions in the United States and may not represent the most appropriate procedure nor optimum emphasis on the various interdependent factors involved in selection of sites for reactors in other countries where national needs, resources, policies and other factors may be greatly different.

31 FR 4668
Published 3/19/66
Effective 3/19/66

Miscellaneous Amendments

See Part 20 Statements of Consideration.

38 FR 31279
Published 11/13/73
Effective 12/13/73

Seismic and Geologic Siting Criteria

On November 25, 1971, the Atomic Energy Commission published in the FEDERAL REGISTER (36 FR 22601) for public comment proposed amendments to 10 CFR Part 100, "Reactor Site Criteria," which would add an Appendix A, "Seismic and Geologic Siting Criteria for Nuclear Power Plants". The purpose of the criteria is to set forth the principal seismic and geologic considerations which guide the Commission in its evaluation of the suitability of proposed sites for nuclear power plants and the suitability of the plant design bases established in consideration of the seismic and geologic characteristics of the proposed sites in order to provide reasonable assurance that the nuclear power plant can be constructed and operated at a proposed site without undue risk to the health and safety of the public.

All interested persons were invited to submit comments or suggestions in connection with the proposed amendments within 60 days after publication of the notice of proposed rule making in the FEDERAL REGISTER. After consideration of the comments received in response to the notice of proposed rulemaking the Commission has decided to adopt the amendments in the form set out below. The amendments as adopted reflect the suggestions in a number of the comments. Major differences in Appendix A from the amendments published for comment are:

1. The Safe Shutdown Earthquake and the Operating Basis Earthquake have been defined in terms of geology and seismology.

The proposed rule defined the Safe Shutdown Earthquake and the Operating Basis Earthquake in terms of the effect of these earthquakes on structures, systems and components of the plant. This concept has been retained in these amendments, so that effects on plant structure as well as geologic and seismic considerations are required to adequately define each earthquake.

2. Advances in the state of the art of geologic investigations have been taken into account by giving more credit to three-dimensional investigations, such as those obtained from offshore geologic surveys, in determining the extent of the zone requiring detailed faulting investigations.

3. The selection of an Operating Basis Earthquake has been made mandatory and has been applied to those features of the plant that are safety related.

The proposed rule required that the Operating Basis Earthquake selected be related to the operability of those structures, systems and components necessary for power generation. Many of the comments questioned the legality of imposing safety requirements on portions of the plant which were not safety related. As a result of these comments, the definition of the Operating Basis Earthquake was made more restrictive.

Other significant changes which relate to specific sections of Appendix A are as follows:

1. Section I of Appendix A, entitled "Purpose," has been revised to reference General Design Criterion 2 of Appendix A to 10 CFR Part 50 which requires that nuclear power plant structures, systems, and components important to safety be designed to withstand the effects of natural phenomena without loss of capability to perform their safety function.

2. Section II of Appendix A, entitled "Scope," has been revised to:

a. Clarify the Commission's intent that the investigations described in Appendix A of 10 CFR Part 100 are considered to fall within the scope of § 50.10(c)(1) of 10 CFR Part 50.

b. Define in more precise terms when additional investigations or more conservative determinations or both are required.

c. State that the criteria do not address investigations of possible volcanism required for sites located in areas of volcanic activity and that investigations of the volcanic aspects of such sites will be determined on a case-by-case basis.

3. A number of definitions included in section III of Appendix A have been revised to define more precisely the terms used in this appendix with respect to geology and seismicity, and their relationship to safety related structures, systems and components of a nuclear power plant.

The specific changes made to the definitions of section III are as follows:

a. Paragraph (c) of section III has been revised so that the Safe Shutdown Earthquake is that earthquake which is based upon an evaluation of the maximum earthquake potential considering the regional and local geology and seismology and the specific characteristics of local subsurface material.

b. In paragraph (d) of section III the definition of the Operating Basis Earthquake has been revised by substituting for the definition of the earthquake which produces the vibratory ground motion for which those structures, systems and components necessary for power generation are designed to remain operable, the earthquake which produces vibrating ground motion for which those features of the nuclear power plant necessary for continued operation without undue risk to the health and safety of the public are designed to remain functional, and considering the regional and local geology and seismology and specific characteristics of local subsurface material, which could reasonably be expected to affect earthquake vibratory motion at the plant site during the operating life of the plant.

c. The term "active" fault has been replaced by the term "capable" fault throughout the appendix to eliminate the confusion which has existed between the Appendix A definition of an "active" fault and the other definitions of an active fault widely used by geologists. As used in the Appendix, a capable fault is a fault whose geologic history is taken into account in evaluating the fault's potential for causing vibratory ground motion and which is capable of causing surface faulting. An additional change has been made to paragraph III(g) in that the regional restriction concerning instrumentally determined macro-seismicity has been deleted from paragraph (g)(2) of section III. The definition now includes only the characteristics of macro-seismicity instrumentally determined with records of sufficient precision to demonstrate a direct relationship with the fault.

d. The definition of "zone requiring detailed faulting investigation" in paragraph (j) of section III has been revised to state more clearly the scope and types of investigations in the zone needed to demonstrate that the need to design for surface faulting does not exist, or that the design basis for surface has been properly determined.

4. Section IV, entitled "Required Investigations," has been revised as follows:

a. A statement has been added in paragraph (a) of section IV that the investigations for vibratory ground motion produced by the Safe Shutdown Earthquake are considered to provide an adequate basis for selection of an Operating Basis Earthquake.

b. Paragraph (a)(2) of section IV has been modified to require that investigations for vibratory ground motion and surface faulting include consideration of the possible effects of man's activities on the tectonic structures underlying the site and the region surrounding the site.

c. A new paragraph (b)(2) has been added to section IV to clarify that an evaluation of tectonic structures underlying the site with regard to their potential for causing surface displacement at or near the site is required and that such evaluation shall include consideration of the effects of man's activities on the tectonic structures underlying the site and the region surrounding the site.

d. A footnote has been added to paragraphs (a)(7) and (b)(7) of section IV to clearly state that in the absence of absolute dating, evidence of recency of movement of a fault may be obtained by applying relative dating techniques to rupture, offset warped or otherwise structurally disturbed surface or near surface material or geomorphic features.

e. A footnote has been added to paragraph (a)(7) and (b)(7) of Section IV to clarify that the applicant is to evaluate whether a fault is a capable fault with respect to the defined characteristics stated in paragraph IIIg by conducting a reasonable investigation using suitable geologic and geophysical techniques.

5. The following changes have been made to Section V, entitled "Seismic and Geologic Design Bases:"

a. Paragraph V(a) has been expanded to provide for determination of the design basis for the expected vibratory ground motion as well as the design basis for maximum vibratory ground motion.

b. A requirement has been added to paragraph (a)(1)(iv) of section V that, in the case where a causative fault is near the site, the effect of proximity of an earthquake on the spectral characteristics of the Safe Shutdown Earthquake shall be taken into account.

c. Paragraph (a)(2) of section V has been changed to require the applicant to specify the Operating Basis Earthquake. A requirement which reflects the seismic design bases for plants recently evaluated for construction permits that the maximum vibratory ground acceleration of the Operating Basis Earthquake shall be at least one-half the maximum vibratory ground acceleration of the Safe Shutdown Earthquake has been added.

d. Paragraph (b)(1) of section V has been revised to specify that more detailed three dimensional information such as that obtained from precise investigative techniques may justify the use of a narrower zone requiring detailed faulting investigations. This change has been made to give greater recognition to advances in the state of the art of geologic investigations. Examples of certain types of faults which may require an increase in the width of the zone also are given.

e. Paragraph (d)(1) of section V has been modified to include consideration of the loading effects of dams or reservoirs in the determination of soil stability.

f. Paragraph (d)(4) of section V requires that those structures which are not located in the immediate vicinity of the site, but which are safety related, be designed to withstand the effects of the Safe Shutdown Earthquake and the design basis for surface faulting, determined on a basis comparable to that of the nuclear power plant.

6. The following significant changes were made to section VI, entitled "Application to Engineering Design:"

a. Paragraphs (a)(1) and (a)(2) of section VI have been revised to permit the use of a suitable qualification test to demonstrate that structures, systems and components can withstand the seismic and other concurrent loads.

b. Paragraph VI(a)(1) has been changed to eliminate the requirement that safety related structures, systems, and components also be designed to withstand the effects of vibratory motion of at least fifty percent of the Safe Shutdown Earthquake in combination with other appropriate loads well within elastic limits. This requirement is now included as part of the determination of the Operating Basis Earthquake in paragraph (a)(2) of section V.

c. Paragraph (a)(2) of section VI has been modified to reflect the change made to the Operating Basis Earthquake definition and to define more precisely the stress and deformation limits within which all structures, systems, and components of the nuclear power plant necessary for continued operation without undue risk to the health and safety of the public shall be designed to remain functional.

d. A footnote has been added to the end of paragraph (a)(3) of section VI that the criteria do not address the need for instrumentation that would automatically shut down a nuclear power plant when an earthquake occurs which exceeds a predetermined intensity.

e. A footnote has been added to § 50.36(c)(2) of 10 CFR Part 50 to assure that each power reactor licensee is aware of the limiting condition of operation which is imposed under these criteria. This limitation requires that if vibratory ground motion exceeding that of the Operating Basis Earthquake occurs, shut down of the nuclear power plant will be required. Prior to resuming operations, the licensee will be required to demonstrate to the Commission that no functional damage has occurred to those features necessary for continued operation without undue risk to the health and safety of the public.

The criteria describe the seismic and geologic investigations required to obtain information needed to determine the design basis for earthquake-produced vibratory ground motion and for seismically induced floods and water waves. They also describe investigations required to obtain information to determine whether and to what extent the nuclear power plant need be designed to withstand the effects of surface faulting.

The design basis for the maximum vibratory ground motion is determined, as described in the criteria, through evaluation of the seismology and geology and the geologic and seismic history of the site and the surrounding region. The most severe earthquakes associated with tectonic structures or tectonic provinces in the region surrounding the site are identified by considering those historically reported earthquakes that can be associated with these structures or provinces. If faults in the region surrounding the site are capable faults, the most severe expected earthquakes associated with these faults are determined by also considering their geologic history. Because of the limited historical data, the most severe earthquakes associated with these tectonic structures or tectonic provinces are determined in a conservative manner and are usually larger than the maximum earthquake historically recorded. The design basis for vibratory ground motion at the site is then determined by assuming that the epicenters or locations of highest intensity of the earthquakes are situated at the point on the tectonic structures or tectonic provinces nearest the site.

The criteria require the evaluation of other design considerations which are affected by the design basis for vibratory ground motion, including soil stability, slope stability, and cooling water supply.

In determining whether and to what extent a nuclear power plant need be designed to withstand the effects of surface faulting, the criteria require that the location of the site with respect to capable faults be considered. Procedures are provided for determining whether the site is within a zone requiring detailed faulting investigation based on its location with respect to capable faults. Where a site is within a zone requiring detailed faulting investigation, the criteria require that the regional and local geologic and seismic characteristics of the site be investigated in considerable detail. The adequacy of the detailed investigation will be determined by the Commission on an individual case basis, taking into account the specific site characteristics. Where the detailed investigation indicates that surface faulting need not be taken into account in the design of the nuclear power plant, the criteria require that sufficient data to clearly justify the proposed design basis be presented in the license application.

The criteria also provide general guidance for the design of a nuclear power plant to withstand earthquake-caused effects, pending the development of more detailed criteria.

The amendments were prepared in cooperation with the U.S. Geological Survey and the National Oceanic and Atmospheric Administration. The amendments reflected the experience accumulated by these agencies and the Atomic Energy Commission in evaluating seismic and geologic characteristics of sites for the location of nuclear power plants.

Discussions have been held with various interested groups to assure clarity of the criteria.

A determination has been made that an Environmental Impact Statement is not required. The considerations factored into this determination are included in a memorandum on file at the Commission's Public Document Room at 1717 H Street NW., Washington, D.C.

The seismic and geologic siting criteria in this appendix supplement 10 CFR Part 100 by specifying the seismic and geologic investigations and analyses necessary to determine the acceptability of a proposed site as required by § 100.10. The existing provisions in § 100.10(c)(1) stating that the design of a facility should conform to accepted building codes or standards and that no facility should be located closer than one-fourth mile from the surface location of a known active earthquake fault will be superseded by these criteria.

The criteria will also assist license applicants in complying with § 50.34(a)(1) of 10 CFR Part 50 which requires that the preliminary safety analysis report include a description and safety assessment of the site on which a production or utilization facility is to be located, with appropriate attention to features affecting facility design.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 50 and 100 are published as a document subject to codification.

40 FR 26526
Published 6/24/75
Effective 6/24/75
Comment Period expires 7/24/75

PART 100—REACTOR SITE CRITERIA

Population Center Distances

Since their promulgation by the Atomic Energy Commission (AEC) in April, 1962, the site criteria set forth in 10 CFR Part 100 have served as the framework for evaluations of proposed sites for stationary power and test reactors from the standpoint of protection of the health and safety of the public. Part 100 includes three quantitative site criteria centered around the concepts of: an "exclusion area" surrounding the reactor in which, subject to certain exceptions, the licensee has the authority to determine all activities including exclusion or removal of personnel and property, 10 CFR 100.3(a); a "low population zone" immediately surrounding the "exclusion area" which contains residents the total number and density of whom are such that there is a reasonable probability that appropriate protection measures could be taken in their behalf in the event of a serious accident, 10 CFR 100.3(b); and a "population center distance" which is defined as "the distance from the reactor to the nearest boundary of a densely populated center containing more than about 25,000 residents" 10 CFR 100.3(c). Under Part 100, site suitability is strongly dependent upon whether certain calculated doses from postulated hypothetical accidents at the boundaries of the "exclusion area" and "low population zone" are within specified dose guideline values, 10 CFR 100.11(a) (1) and (2), and whether the "population center distance" is at least one and one-third times the distance from the reactor to the outer boundary of the low population zone, 10 CFR 100.11(a)(3).

As the Statement of Considerations which accompanied publication of the effective Part 100 in the FEDERAL REGISTER indicated, the effective Part was intended to reflect current AEC siting practices. The Statement of Considerations indicated a concern on the part of the AEC with cumulative exposure dose to large numbers of people as a consequence of nuclear reactor accidents. The population center distance criterion in 10 CFR 100.11(a)(3), in particular, was added to the effective Part in order to provide additional protection to people in large centers (27 FR 3509, April 12, 1962)

In light of this underlying concern for cumulative exposure dose to large numbers of people in population centers, the AEC has applied the population center distance criterion with a view to consideration of population distribution. Indeed 10 CFR 100.11(a)(3) specifically provides that "in applying this [population center distance] guide, due consideration should be given to the population distribution within the population center." The "boundary" of a densely populated center has been determined on a case-by-case basis. Generally, where it has not appeared that the population center distance criterion would be crucial to site suitability because the site was located far from any densely populated area, the "boundary" of the population center was, for convenience, taken as the corporate or political boundary. However, it is clear that a wide variety of political, economic, and social factors are applied by State and local jurisdictions in selecting corporate or political boundaries. Thus, there is no necessary correlation between corporate or political boundaries and population distribution. Indeed, even if a particular corporate or political boundary had been chosen on the basis of population distribution, there would be no assurance that the boundary would continue to reflect actual population distribution. Consequently, in cases where the population center distance criterion might weigh heavily in the overall site suitability evaluation, a more refined definition of the population center boundary has been utilized. In defining the boundary, consideration has not been confined to the location of the political or corporate boundary of the population center, but distribution of people within and even beyond the political or corporate boundary has been given even greater significance.

A general examination of power reactor siting regulations and policies is underway as a separate matter. In the interim, the Commission is firmly of the opinion that continued implementation of its population center distance criterion is required. However, the recent decision of the United States Court of Appeals for the Seventh Circuit in *Izaak Walton League v. AEC*, ——— F. 2d ———, No. 74–1751 (April 1, 1975), expresses the view that such implementation is inconsistent with the present language of the regulation. In that decision the Court held that while a population center boundary under the meaning of Part 100 may extend beyond the political or corporate limits because of population distribution considerations, "there is neither reason nor sound safety policy to cut down the boundaries of that unit and make some hopeless attempt to construct imaginary boundaries." Slip Opinion at 13–14. The AEC held in that licensing proceeding, and the NRC maintained before the Court on review, that the boundary of the population center within the meaning of Part 100 must be determined in light of considerations of population distribution, rather than determined on the basis of acceptance of the political or corporate boundary.

In light of the above, the Commission wishes to amend Part 100 to restore and make clear the intended meaning of the rule. The amendment which follows provides that in applying the population center distance criterion in 10 CFR 100.11(a)(3), the "boundary" of the population center, as that term appears in 10 CFR 100.3(c), shall be determined upon consideration of population distribution (rather than determined solely upon consideration of location of the political or corporate boundaries). The proposed amendment is interpretative in nature and reflects the current and consistent siting practice of the Commission.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and section 553 of Title 5 of the United States Code, notice is hereby given of adoption of the following amendment to 10 CFR Part 100.

Because the amendment is interpretative in nature, and merely reflects the current siting practice of the Commission, and because of the immediate adverse effect of the Bailly reading, the amendment is made immediately effective. However, the Commission is providing an opportunity for public comment upon the amendment. All interested persons who desire to submit written comments should send them to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Attention: Docketing and Service Section, Washington, D.C. 20555, by July 24, 1975. Copies of comments received will be available for public inspection at the Commission's Public Document Room at 1717 H Street NW., Washington, D.C

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42 FR 2051
Published 1/10/77
Effective 1/10/77

PART 100—REACTOR SITE CRITERIA

Seismic and Geologic Design Bases

By letter dated February 11, 1975, Mr. David S. Fleischaker of Berlin, Roisman, Kessler, and Cashdan, 1712 N Street, NW, Washington, D.C. 20036, counsel for the New England Coalition on Nuclear Pollution, filed a petition for rule making (PRM 100–1) with the Nuclear Regulatory Commission.

The petitioner requested that an opinion interpreting and clarifying Appendix A of 10 CFR Part 100, "Seismic and Geologic Siting Criteria for Nuclear Power Plants," with respect to the determination of the Safe Shutdown Earthquake, be issued. The question of interpretation raised in the petition is whether or not the maximum vibratory ground motion design basis for a nuclear power plant is limited to that associated with the maximum intensity earthquake of historical record, i.e., whether or not the Safe Shutdown Earthquake is necessarily the maximum intensity earthquake of historical record.

The petitioner also requested that, in

the event a clarifying opinion is not issued, the Commission institute a rulemaking proceeding pursuant to § 2.802 of 10 CFR Part 2, to amend Section V(a)(1) of Appendix A of 10 CFR Part 100 as follows:

> 1. *Determination of the Safe Shutdown Earthquake.* The Safe Shutdown Earthquake shall be determined by reference to the following guidelines which establish minimal requirements for evaluation of seismic and geologic information developed pursuant to the requirements of paragraph IV(a).

The Commission treated the matter as a petition for rulemaking, and a notice of filing of the petition, Docket No. PRM-100-1, was published in the FEDERAL REGISTER on May 14, 1975 (40 FR 20983). The public comment period ended July 14, 1975.

The Commission has considered the public comments received and other relevant information in its evaluation of the petition.

The procedures and investigations specified in Section V(a)(1) of the existing regulations result invariably in the Safe Shutdown Earthquake intensity being equal to or exceeding the maximum historic earthquake intensity experienced at a nuclear power plant site. These provisions of Appendix A are minimum requirements, and they have consistently been interpreted as such in licensing decisions. Section V(a)(1)(i) of Appendix A of the CFR Part 100 states in pertinent part that "The magnitude or intensity of earthquakes based on geologic evidence may be larger than that of the maximum earthquake historically recorded." Furthermore, Section II, "Scope," of Appendix A states in relevant part that "* * * more conservative determinations that those included in these criteria may be required for sites located in areas having complex geology or in areas of high seismicity."

The Commission does not believe that the specific clarifying language proposed by the petitioner would clarify Appendix A, add to its inherent safety, or improve its implementation, and, therefore, it has rejected the specific wording proposed by the petitioner. However, the Commission has accepted the substance of the petitioner's proposal and has decided to issue an amendment to Appendix A that clearly states that the maximum historic earthquake could be exceeded in the determination of the safe shutdown earthquake where warranted.

The Commission believes that this clarifying amendment will accomplish the petitioner's objective, and eliminate a possible source of misinterpretation. In particular, with regard to the determination of the Safe Shutdown Earthquake, and whether and under what conditions it may exceed the value derived by application of the methodology specified in Appendix A, the previous regulation provided the broad guidance that the "procedures in paragraphs (a)(1)(i) through (iii) of this section (Section V) shall be applied in a conservative manner." The amendment would clarify this guidance, in light of past experience in implementing the regulation by specifically providing, that a larger Safe Shutdown Earthquake may be required when geological and seismological data warrant. Some conditions which might warrant selection of a larger Safe Shutdown Earthquake are: (1) Where the highest intensity of historically reported earthquakes is determined to have been experienced at the site taking into consideration site foundation conditions, (2) where seismicity in the immediate site vicinity is significantly higher than that generally existing in the tectonic province as a whole, (3) where there exists in proximity to the site tectonic structure demonstrably like that found where larger earthquakes in the tectonic province have occurred historically.

Because the amendment which follows relates solely to minor matters of a clarifying nature, good cause exists for omitting notice of proposed rulemaking, and public procedure thereon, as unnecessary, and for making the amendment effective on January 10, 1977.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and section 553 of Title 5 of the United States Code the following amendment to Appendix A of 10 CFR Part 100 is published as a document subject to codification.

49 FR 19623
Published 5/9/84
Effective 5/9/84

Information Collection Requirements;
Display of OMB Control Numbers

See Part 0 Statements of Consideration

PART 110

EXPORT AND IMPORT OF NUCLEAR EQUIPMENT AND MATERIAL

Subpart A—General Provisions

Sec.
110.1 Purpose and scope.
110.2 Definitions.
110.3 Interpretations.
110.4 Inquiries.
110.5 License requirements.
110.6 Retransfers.
110.7 Information collection requirements OMB approval.
110.8 List of nuclear equipment and material under NRC export licensing authority.
110.9 List of nuclear equipment and material under NRC import licensing authority.

Subpart B—Exemptions

110.10 General.
110.11 Export of IAEA safeguard samples.

Subpart C—General Licenses

110.20 General.
110.21 Export of special nuclear material.
110.22 Export of source material.
110.23 Export of byproduct material.
110.24 Export of deuterium.
110.25 Export of nuclear grade graphite.
110.26 Export of nuclear reactor components.
110.27 Imports.
110.28 Embargoed destinations.
110.29 Restricted destinations.

Subpart D—Applications for Specific Licenses

Sec.
110.30 Filing license applications.
110.31 Information required in license applications.

Subpart E—Review of License Applications

110.40 Commission review.
110.41 Executive Branch review.
110.42 Export licensing criteria.
110.43 Physical security standards.
110.44 Issuance or denial of licenses.
110.45 Conduct resulting in termination of nuclear exports.

Subpart F—License Terms and Related Provisions

110.50 Terms.
110.51 Amendments.
110.52 Revocation, suspension, and modification.
110.53 United States address, records, and inspections.

Subpart G—Violations and Enforcement

110.60 Violations.
110.61 Notice of violation.
110.62 Order to show cause.
110.63 Order for revocation, suspension, or modification.
110.64 Civil penalty.
110.65 Settlement and compromise.
110.66 Enforcement hearing.

Subpart H—Public Notification and Availability of Documents and Records

110.70 Notice of receipt of an application.
110.71 Notice of withdrawal of an application.
110.72 Availability of documents in the Public Document Room.
110.73 Availability of NRC records.

Subpart I—Public Participation Procedures Concerning License Applications

110.80 Basis for hearings.
110.81 Written comments.
110.82 Hearing request or intervention petition.
110.83 Answers and replies.
110.84 Commission action on a hearing request or intervention petition.
110.85 Notice of hearing consisting of written comments.
110.86 Notice of oral hearing.
110.87 Conditions in a notice or order.
110.88 Authority of the Secretary.
110.89 Filing and service.
110.90 Computation of time.
110.91 Commission consultations.

Subpart J—Hearings

110.100 Public hearings.
110.101 Filing and service.
110.102 Hearing docket.
110.103 Acceptance of hearing documents.
110.104 Presiding officer.
110.105 Responsibility and power of the presiding officer in an oral hearing.
110.106 Participation in a hearing.
110.107 Presentation of testimony in an oral hearing.
110.108 Appearance in an oral hearing.
110.109 Motions and requests.
110.110 Default.
110.111 Waiver of a rule or regulation.
110.112 Reporter and transcript for an oral hearing.
110.113 Commission action.

Subpart K—Special Procedures for Classified Information in Hearings

110.120 Purpose and scope.
110.121 Security clearances and access to classified information.
110.122 Classification assistance.
110.123 Notice of intent to introduce classified information.
110.124 Rearrangement or suspension of a hearing.
110.125 Unclassified statements required.
110.126 Protection of classified information.

Subpart L—Rule Making

110.130 Initiation of rule making.
110.131 Petition for rule making.
110.132 Commission action on a petition.
110.133 Notice of proposed rule making.
110.134 Public participation.
110.135 Notice of rule making.

APPENDIX A—List of nuclear equipment and material under NRC export/import licensing authority.
APPENDIX B—Categorization of nuclear material.
APPENDIX C— [deleted]

50 FR 20742

Authority: Sec. 51, 53, 54, 57, 63, 64, 65, 81, 82, 103, 104, 109, 111, 126, 127, 128, 129, 161, 181, 182, 183, 187, 189, 68 Stat. 929, 930, 931, 932, 933, 936, 937, 948, 953, 954, 955, 956, as amended (42 U.S.C. 2071, 2073, 2074, 2077, 2092–2095, 2111, 2112, 2133, 2134, 2139, 2139a, 2141, 2154–2158, 2201, 2231–2233, 2237, 2239); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841).

Section 110(b)(2) also issued under Pub. L. 96–533, 94 Stat. 3138 (22 U.S.C. 2403). Section 110.11 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152) and secs. 54c. and 57d., 88 Stat. 473, 475 (42 U.S.C. 2074). Section 110.50(b)(3) also issued under sec. 123, 92 Stat. 142 (42 U.S.C. 2153). Section 110.51 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Section 110.52 also issued under sec. 186, 68 Stat. 955 (42 U.S.C. 2236). Sections 110.80–110.113 also issued under 5 U.S.C. 552, 554. Sections 110.130–110.135 also issued under 5 U.S.C. 553.

For the purpose of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 110.20–110.29, 110.50, and 110.120–110.129 also issued under secs. 161b. and i., 68 Stat. 948, 949, as amended (42 U.S.C. 2201(b) and (i); and § 110.53 also issued under sec. 161o., 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

Subpart A—General Provisions

§ 110.1 Purpose and scope.

(a) The regulations in this part prescribe licensing, enforcement, and rulemaking procedures and criteria, under the Atomic Energy Act, for the export of nuclear equipment and material, as set out in § 110.8, and the import of nuclear equipment and material, as set out in § 110.9.

49 FR 49841

(b) The regulations in this part apply to all persons in the United States except: (1) The Departments of Defense and Energy for activities authorized by sections 54, 65, 82, and 91 of the Atomic Energy Act, except when the Department of Energy seeks an export license under section 111 of the Atomic Energy Act; (2) persons who export uranium depleted in the isotope 235 and incorporated in defense articles or commodities solely to take advantage of high density or pyrophoric characteristics, as authorized by section 110 of the International Security and Development Cooperation Act of 1980,[1] and (3) persons who import deuterium, nuclear grade graphite or nuclear equipment other than production or utilization facilities.

§ 110.2 Definitions.

As used in this part,

"Agreement for cooperation" means any agreement with another nation or group of nations concluded under section 123 of the Atomic Energy Act, as amended.

"Atomic Energy Act" means the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011).

"Byproduct material" means radioactive material (except special nuclear material) produced by exposure to the radiation incident to the process of producing or using special nuclear material.

"Classified information" means National Security Information classified under Executive Order 12356.

"Commission" means the United States Nuclear Regulatory Commission or its duly authorized representatives.

"Common defense and security" means the common defense and security of the United States.

"Deuterium" means deuterium and any deuterium compound, including heavy water, in which the ratio of deuterium atoms to hydrogen atoms exceeds 1:5000.

49 FR 47191

"Effective kilograms of special nuclear material" means:

For plutonium and uranium-233, their weight in kilograms;

For uranium enriched 1 percent or greater in the isotope U-235, its element weight in kilograms multiplied by the square of its enrichment expressed as a decimal weight fraction; and

For uranium enriched below 1 percent in the isotope U-235, its element weight in kilograms multiplied by 0.0001.

"Executive Branch" means the Departments of State, Energy, Defense and Commerce and the Arms Control and Disarmament Agency.

"Export" means export from the United States.

"General license" means an export or import license effective without the filing of a specific application with the Commission or the issuance of licensing documents to a particular person.

"High-enriched uranium" means uranium enriched to 20 percent or greater in the isotope uranium-235.

"Import" means import into the United States.

"IAEA" means the International Atomic Energy Agency.

The phrase "introduced into a hearing" means the introduction or incorporation of testimony or documentary matter into the record of a hearing.

49 FR 47191

"License" means a general or specific export or import license issued pursuant to this part.

"Licensee" means a person authorized by a specific or a general license to export or import nuclear equipment or material pursuant to this part.

"Low-enriched uranium" means uranium enriched below 20 percent in the isotope uranium-235.

"Non-nuclear weapon State" means any State not a nuclear weapon State as defined in the Treaty on the Non-Proliferation of Nuclear Weapons. "Nuclear weapon State" means any State which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to January 1, 1967.

"Non-Proliferation Act" means the Nuclear Non-Proliferation Act of 1978 (Pub. L. 95-242).

"NPT" means the Treaty on the Non-Proliferation of Nuclear Weapons (TIAS 6839).

"NRC records" means any documentary material made by, in the possession of, or under the control of the Commission under Federal law or in connection with the transaction of public business as evidence of any of the Commission's activities.

"Nuclear grade graphite" means graphite with a boron equivalent content of less than 5 parts per million and density greater than 1.5 grams per cubic centimeter.

"Nuclear reactor" means an apparatus, other than an atomic weapon or nuclear explosive device, designed or used to sustain nuclear fission in a self-supporting chain reaction.

"Packaging" means one or more receptacles and wrappers and their contents, excluding any special nuclear material, source material or byproduct material, but including absorbent material, spacing structures, thermal insulation, radiation shielding, devices for cooling and for absorbing mechanical shock, external fittings, neutron moderators, nonfissile neutron absorbers and other supplementary equipment.

"Participant" means a person, identified in a hearing notice or other Commission order, who takes part in a hearing conducted by the Commission under this part, including any person to whom the Commission grants a hearing or leave to intervene in an export or import licensing hearing, either as a matter of right or as a matter of discretion.

49 FR 47191

"Person" means any individual, corporation, partnership, firm, association, trust, estate, institution, group, Government agency other than the Commission or, with respect to imports, the Department of Energy; any State or political entity within a State; any foreign government or political entity of such government; and any authorized representative of the foregoing.

49 FR 49841

"Physical security" means measures to reasonably ensure that source or special nuclear material will only be used for authorized purposes and to prevent theft or sabotage.

"Production facility" means any nuclear reactor or plant specially designed or used to produce special nuclear material through the irradiation of source material or special nuclear material, the separation of isotopes or the chemical reprocessing of irradiated source or special nuclear material.

"Public Document Room" means the place at 1717 H Street NW., Washington, D.C., where public records of the Commission are ordinarily available for inspection.

"Public health and safety" means the public health and safety of the United States.

"Retransfer" means the trans-

49 FR 47191

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[1] These exports are subject to the controls of the State Department and the Commerce Department under the general authority of the Arms Export Control Act and the Export Administration Act. The Commerce Department also has export licensing authority over additional nuclear-related commodities, such as advanced computers, bulk zirconium and beryllium.

port from one foreign country to another of nuclear equipment or nuclear material previously exported from the United States, or of special nuclear material produced through the use of source material or special nuclear material previously exported from the United States.

"Sealed source" means any special nuclear material or byproduct material encased in a capsule designed to prevent leakage or escape of that nuclear material.

"Secretary" means the Secretary of the Commission.

(mm) "Source material" means:

Uranium or thorium, other than special nuclear material; or

Ores which contain by weight 0.05 percent or more of uranium or thorium, or any combination of these.

"Special nuclear material" means plutonium, uranium-233 or uranium enriched above 0.711 percent by weight in the isotope uranium-235.

49 FR 47191

"Specific license" means an export or import license issued to a named person upon an application filed pursuant to this part.

"Transfer" means the transfer of possession from one person to another person.

(qq) "Transport" means the physical movement of material from one location to another.

"United States", when used in a geographical sense, includes Puerto Rico and all territories and possessions of the United States.

"Utilization facility" means any nuclear reactor, other than one that is a production facility, and the following major components of a nuclear reactor:

Pressure vessels designed to contain the core of a nuclear reactor;

Primary coolant pumps;

Fuel charging or discharging machines; and

Control rods.

A utilization facility does not include the steam turbine generator portion of a nuclear power plant.

43 FR 21641

§ 110.3 Interpretations.

Except as authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part other than a written interpretation by the Commission's General Counsel is binding upon the Commission.

49 FR 47191

§ 110.4 Inquiries.

Inquiries concerning this part should be addressed to the Office of the Assistant Director for Export/Import and International Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (telephone (301) 492–4599 or 492–7984).

§ 110.5 License requirements.

Except as provided under Subpart B, no person may export any nuclear equipment or material listed in § 110.8, or import any nuclear equipment or material listed in § 110.9, unless authorized by a general or specific license issued under this part.

§ 110.6 Retransfers.

(a) Retransfer of any nuclear equipment or material listed in § 110.8, including special nuclear material produced through the use of U.S.-origin source material or special nuclear material, requires authorization by the Department of Energy, unless the export to the new destination is authorized under a specific or general license or an exemption from licensing requirements. Under certain agreements for cooperation, Department of Energy authorization is also required for the retransfer of special nuclear material produced through the use of non-U.S.-supplied nuclear material in U.S.-supplied utilization facilities.

(b) Requests for authority to retransfer are processed by the Department of Energy, Office of International Nuclear and Non-Proliferation Policy, Washington, D.C. 20585.

§ 110.7 Information collection requirements: OMB approval.

49 FR 47191

The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et. seq.). OMB has approved the information collection requirements in §§ 110.26, 110.30, 110.31, 110.50 and 110.53 under control number 3150–0036, and has approved the use of Form NRC–7, as referenced in § 110.30, under control number 3150–0027. No other information collection requirements are contained in Part 110.

§ 110.8 List of Nuclear equipment and material under NRC export licensing authority.

(a) Nuclear reactors and parts and components for nuclear reactors as follows:

(1) Reactor pressure vessels, i.e., metal vessels, as complete units or major shop-fabricated parts, specially designed or prepared to contain the core of a nuclear reactor and capable of withstanding the operating pressure of the primary coolant.

(2) On-line (e.g., CANDU) reactor fuel charging and discharging machines, i.e., manipulative equipment specially designed for inserting or removing fuel in an operating nuclear reactor.

(3) Reactor control rods, i.e., rods specially designed or prepared for the control of the reaction rate in a nuclear reactor.

(4) Reactor primary coolant pumps, i.e., pumps specially designed or prepared for circulating the primary coolant in a nuclear reactor.

(5) Reactor pressure tubes, i.e., tubes specially designed or prepared to contain fuel elements and the primary coolant in a nuclear reactor at an operating pressure in excess of 50 atmospheres.

(6) Zirconium tubes, i.e., zirconium metal and alloys in the form of tubes or assemblies of tubes specially designed or prepared for use in a nuclear reactor.

(7) Reactor internals, e.g., core support structures, control and rod guide tubes, thermal shields, baffles, core grid plates and diffuser plates specially designed or prepared for use in a nuclear reactor.

(8) Reactor control rod drive mechanisms, including detection and measuring equipment to determine flux levels.

(9) Any other components specially designed or prepared for use in a nuclear reactor or in any of the components described in this paragraph.

(b) Plants for the separation of the isotopes of source material, special nuclear material or lithium, and components for those plants as follows:[2]

(1) Uranium hexafluoride (UF_6) corrosion resistant valves.

49 FR 47191

(2) Units capable of separating isotopes of source material, special nuclear material or lithium, such as: (i) Gas centrifuges, (ii) jet nozzle separation units, (iii) vortex separation units, and (iv) laser isotope separation units.

(3) Uranium hexafluoride (UF_6) corrosion resistant axial or centrifugal compressors and specially designed or prepared seals for those compressors.

(4) Gaseous diffusion barriers specially designed or prepared for use in separating isotopes of source material, special nuclear material or lithium.

(5) Gaseous diffuser housings specially designed or prepared for use in plants for separating isotopes of source material, special nuclear material or lithium.

(6) Heat exchangers specially designed or prepared for use in gaseous diffusion plants.

(7) Any other components specially designed or prepared for use in an isotope separation plant or in any of the components described in this paragraph.

50 FR 20742

(c) Plants for the reprocessing of irradiated nuclear reactor fuel elements and components for those plants as follows:

(1) Fuel element chopping machines, i.e., remotely operated equipment specially designed or prepared to cut, chop, or shear irradiated nuclear reactor fuel assemblies, bundles, or rods.

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[2] See Appendix A for a detailed listing of the components of a gas centrifuge enrichment plant which have been interpreted to be covered by the general entries in this paragraph.

(2) Criticality safe tanks, i.e., small diameter, annular or slab tanks specially designed or prepared for the dissolution of irradiated nuclear reactor fuel.

(3) *Solvent extraction equipment.* Especially designed or prepared solvent extractors such as packed or pulse columns, mixer settlers or centrifugal contractors for use in a plant for the reprocessing of irradiated fuel. Because solvent extractors must be resistant to the corrosive effect of nitric acid, they are normally fabricated to extremely high standards (including special welding and inspection and quality assurance and quality control techniques) out of low carbon stainless steels, titanium, zirconium or other high quality materials.

(4) *Chemical holding or storage vessels.* Especially designed or prepared holding or storage vessels for use in a plant for the reprocessing of irradiated fuel. Because holding or storage vessels must be resistant to the corrosive effect of nitric acid, they are normally fabricated or materials such as low carbon stainless steels, titanium or zirconium, or other high quality materials. Holding or storage vessels may be designed for remote operation and maintenance and may have the following features for control of nuclear criticality:

50 FR 20742

(i) Walls or internal structures with a boron equivalent of at least 2 percent, or

(ii) A maximum diameter of 7 inches (17.78 cm) for cylindrical vessels, or

(iii) A maximum width of 3 inches (7.62 cm) for either a slab or annular vessel.

(5) *Plutonium nitrate to plutonium oxide conversion systems.* Complete systems especially designed or prepared for the conversion of plutonium nitrate to plutonium oxide, in particular, adapted so as to avoid criticality and radiation effects and to minimize toxicity hazards.

(6) *Plutonium metal production systems.* Complete systems especially designed or prepared for the production of plutonium metal, in particular adapted so as to avoid criticality and radiation effects and to minimize toxicity hazards.

(7) Process control instrumentation specially designed or prepared for monitoring or controlling the processing of material in a reprocessing plant.

(8) Any other components specially designed or prepared for use in a reprocessing plant or in any of the components described in this paragraph.

(d) Plants for the fabrication of nuclear reactor fuel elements and specially designed or prepared parts and components for those plants.

(e) Plants for the production of heavy water, deuterium and deuterium compounds, and specially designed or prepared parts and components for those plants.

(f) Special nuclear material.

(g) Source material.

(h) Byproduct material.

(i) Deuterium.

(j) Nuclear grade graphite.

§ 110.9 List of nuclear equipment and material under NRC import licensing authority.

(a) Production and utilization facilities.

(b) Special nuclear material.

(c) Source material.

(d) Byproduct material.

49 FR 47191

Subpart B—Exemptions

§ 110.10 General.

(a) In response to a request or on its own initiative, the Commission may grant an exemption from the regulations in this part, if it determines that the exemption—

(1) Is authorized by law;

(2) Is not inimical to the common defense and security; and

(3) Does not constitute an unreasonable risk to the public health and safety.

(b) An exemption from statutory licensing requirements, as authorized by sections 57d, 62, and 81 of the Atomic Energy Act, will be granted only after coordination with the Executive Branch and after completion of rulemaking proceedings under Subpart L.

(c) The granting of an exemption does not relieve any person from complying with the regulations of other Government agencies applicable to exports or imports under their authority.

§110.11 Export of IAEA safeguards samples.

A person is exempt from the requirements for a license to export special nuclear material set forth in sections 53 and 54d. of the Atomic Energy Act and from the regulations in this part to the extent that the person exports special nuclear material in IAEA safeguards samples, if the samples are exported in accordance with § 75.42(e)(1) of this chapter, or a comparable Department of Energy order, and are in quantities not exceeding a combined total of 100 grams of contained plutonium, U-233 and U-235 per facility per year. This exemption does not relieve any person from complying with Parts 71 or 73 of this chapter or any Commission order pursuant to section 201(a) of the Energy Reorganization Act of 1974 (42 U.S.C. 5841(a)).

Subpart C—General Licenses

§ 110.20 General.

(a) In response to a petition or on its own initiative, the Commission may issue a general license for export or import if it determines that any exports or imports made under the general license will not be inimical to the common defense and security or constitute an unreasonable risk to the public health and safety and otherwise meet applicable statutory requirements.

(b) All general licenses will be coordinated with the Executive Branch and will be subject to rulemaking proceedings under Subpart L.

(c) A general license does not relieve a person from complying with the regulations of other Government agencies applicable to exports or imports under their authority.

49 FR 47191

(d) A general license for export may not be used if the exporter knows, or has reason to believe, that the material will be used in any activity related to isotope separation, chemical reprocessing, heavy water production or the fabrication of nuclear fuel containing plutonium, unless these activities are generically authorized under an appropriate agreement for cooperation.

(e) As specified in §§ 110.21 through 110.26, only certain countries are eligible to receive imports of material or equipment under NRC general license. The Commission will closely monitor these countries and may at any time remove a country from its general license eligibility in response to significant adverse developments in the country involved. A key factor in this regard is the nonproliferation credentials of the importing country.

§ 110.21 Export of special nuclear material.

(a) A general license is issued to any person to export the following to any country not listed in § 110.28:

(1) Low-enriched uranium as residual contamination (17.5 parts per million or less) in any item or substance.

(2) Plutonium containing 80 percent or more by weight of plutonium-238 in cardiac pacemakers.

(3) Special nuclear material in sensing components in instruments, if no more than 3 grams of enriched uranium or 0.1 gram of plutonium or U-233 are contained in each sensing component.

(b) A general license is issued to any person to export the following to any country not listed in § 110.28 or § 110.29:

(1) Special nuclear material in individual shipments of 0.001 effective kilograms or less (e.g., 1.0 gram of plutonium, U-233 or U-235, or 10 kilograms of 1 percent enriched uranium). No person may export more than 0.1 effective kilogram per year to any one country.

(2) Special nuclear material in fuel elements as replacements for damaged or defective unirradiated fuel elements previously exported under a specific license, subject to the same terms as the original export license and the condition that the replaced fuel elements must be returned to the United States within a reasonable time period.

§ 110.22 Export of source material.

(a) A general license is issued to any person to export the following to any country not listed in § 110.28:

(1) Uranium or thorium in any substance in concentrations of less than 0.05 percent by weight.

(2) Thorium in incandescent gas mantles or in alloys in concentrations of 5 percent or less.

49 FR 47191

(b) A general license is issued to any person to export uranium or thorium in individual shipments of 10 kilograms or less to any country not listed in § 110.28 or § 110.29. No person may export more than 1,000 kilograms per year to any one country.

(c) A general license is issued to any person to export uranium or thorium in individual shipments of 1 kilogram or less to any country listed in § 110.29. No person may export more than 100 kilograms per year to any one country.

§ 110.23 Export of byproduct material.

(a) A general license is issued to any person to export the following to any country not listed in § 110.28:

(1) All byproduct material, except tritium, polonium-210, neptunium-237, and americium-241.

(2) Tritium in luminescent light sources in individual shipments of 10,000 curies or less.

(3) Tritium in any dispersed form (i.e., not in bulk gaseous form) in individual shipments of 100 curies or less. A person may not export more than 1,000 curies per year to any one country.

(4) Polonium-210 in individual shipments of 100 curies or less when contained in static eliminators.

(5) Neptunium-237 in individual shipments of 1 gram or less. No person may export more than 10 grams per year

to any one country.

(b) A general license is issued to any person to export americium-241 to any country not listed in § 110.28, except that exports of americium-241 exceeding one curie per shipment or 100 curies per year to countries listed in § 110.29—

(1) Must be contained in petroleum exploration equipment in quantities not exceeding 20 curies per device; and

(2) May not exceed 200 curies per year to any one country.

(c) A general license is issued to export tritium in bulk, undispersed form in individual shipments of 100 curies or less to any country not listed in § 110.28 or § 110.29. No person may export more than 10,000 curies per year to any one country.

§ 110.24 Export of deuterium.

(a) A general license is issued to any person to export deuterium in individual shipments of 10 kilograms or less (50 kilograms of heavy water) to any country not listed in § 110.28 or § 110.29. No person may export more than 200 kilograms (1000 kilograms of heavy water) per year to any one country.

(b) A general license is issued to any person to export deuterium in individual shipments of 1 kilogram or less (5 kilograms of heavy water) to any country listed in § 110.29. No person may export more than 5 kilograms (25 kilograms of heavy water) per year to any one country.

49 FR 47191

§ 110.25 Export of nuclear grade graphite.

(a) A general license is issued to any person to export bulk nonfabricated nuclear grade graphite in individual shipments of 100 kilograms or less to any country not listed in § 110.28. No person may export more than 2,000 kilograms per year to any one country.

(b) A general license is issued to any person to export nuclear grade graphite in fabricated nonnuclear-related commercial products to any country not listed in § 110.28, except that graphite electrodes weighing more than 1 kilogram per electrode may not be exported to any country listed in § 110.29. Fabricated products are those in final manufactured form except for detailed machining and other final steps necessary for the intended end use of the product.

49 FR 49841

§ 110.26 Export of nuclear reactor components.

(a) A general license is issued to any person to export any nuclear reactor component, listed in § 110.8 (a)(5) through (a)(9), for use in any light or heavy water-moderated power or research reactor in any of the following countries:

49 FR 47191

Canada
EURATOM[3]
Indonesia
Japan
South Korea
Philippines
Spain
Sweden
Switzerland
Taiwan

(b) This general license does not authorize the export of essentially complete reactors through piecemeal exports of facility components. When individual exports of components would amount in the aggregate to export of an essentially complete nuclear reactor, a facility export license is required.

(c) Persons making exports under the general license established by paragraph (a) of this section shall submit by February 1 of each year one copy of a report of all components shipped during the previous calendar year. This report must include:

(1) A description of the components keyed to the categories listed in § 110.8(a).

(2) Approximate shipment dates.

(3) A list of recipient countries and endusers keyed to the items shipped.

§ 110.27 Imports.

A general license is issued to any person to import byproduct, source or special nuclear material, other than 100 kilograms or more of irradiated fuel, if the consignee is authorized to possess the material under: (a) A contract with the Department of Energy or (b) an exemption from licensing requirements issued by the Commission or a general or specific license issued by the Commission or a State with which the Commission has entered into an agreement under section 274b. of the Atomic Energy Act. Importers of special nuclear material under this general license shall provide advance notification of imports to the Commission as specified in § 73.27 of this chapter.

§ 110.28 Embargoed destinations.

Cuba, Kampuchea, North Korea, Vietnam.

§ 110.29 Restricted destinations.

Afghanistan
Albania
Algeria
Andorra
Angola
Argentina
Bahrain
Belize
Bhutan
Brazil
Burma
Chile
Comoros
Djibouti
Equatorial Guinea
Guyana
India
Iran
Iraq
Israel
Kiribati
Kuwait
Libya
Malawi
Mauritania
Mozambique
Niger
Oman
Pakistan
Qatar
Saudi Arabia
Seychelles
South Africa
St. Kitts
St. Vincent and the Grenadines
Syria
Tanzania
United Arab Emirates
Vanuatu
Yemen Arab Republic
Zambia
Zimbabwe

49 FR 47191

Subpart D—Applications for Specific Licenses

§ 110.30 Filing license applications.

(a) A person shall file a license application with the Assistant Director for Export/Import and International Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, or deliver the application in person to the Commission's offices at 1717 H Street, NW., Washington, DC.

(b) An export license application should be filed on Form NRC 7 unless it is for a license to export a production or utilization facility. An import license application and a production or utilization facility export license application should be filed by letter. Upon request, applications may be filed by telegram.

(c) Each person shall provide in the license application, as appropriate, the information specified in § 110.31. The Commission may also require the submission of additional information if necessary to complete its review.

(d) A consolidated license application may be filed covering multiple shipments.

49 FR 47191

(e) Information in a previous license application may be incorporated by reference.

(f) An applicant shall withdraw an application whenever it is no longer needed. The Commission's official files retain all documents related to a withdrawn application.

§ 110.31 Information required in license applications.

(a) Name and address of applicant.

(b) Name and address of supplier of equipment or material.

(c) Country of origin of equipment or material, if known.

(d) Names and addresses of all intermediate and ultimate consignees, other than intermediate consignees performing shipping services only.

(e) Dates of proposed first and last shipments.

(f) Description of the equipment or material including, as appropriate, the following:

(1) Maximum quantity of material in grams or kilograms (curies for byproduct material) and its chemical and physical form.

(2) For enriched uranium, the maximum weight percentage of enrichment and maximum weight of contained U-235.

(3) For nuclear equipment, total dollar value.

(4) For nuclear reactors, the name of the facility and its design power level.

(5) Description of end use by all consignees in sufficient detail to permit

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[3] Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, the United Kingdom and West Germany.

49 FR 47191

accurate evaluation of the justification for the proposed export or import, including the need for shipment by the dates specified.

43 FR 21641

Subpart E—Review of License Applications

§ 110.40 Commission review.

(a) Immediately after receipt of a license application, the Commission will initiate its licensing review and, to the maximum extent feasible, will expeditiously process the application concurrently with review by the Executive Branch.

49 FR 47191

(b) The Commissioners shall review a license application for export of the following:

(1) A production or utilization facility.

(2) More than one effective kilogram of high-enriched uranium, plutonium or U-233.

(3) 1,000 kilograms or more of heavy water or nuclear grade graphite.

(4) An export involving assistance to end uses related to isotope separation, chemical reprocessing, heavy water production, advanced reactors or the fabrication of nuclear fuel containing plutonium, except for categories of exports approved in advance by the Commission as constituting permitted incidental assistance.

(5) The initial export to a country since March 10, 1978 of source or special nuclear material for nuclear end use.

(6) An export involving over: (i) 10 grams of plutonium, U-233 or high-enriched uranium; (ii) 1 effective kilogram of low-enriched uranium; (iii) 250 kilograms of source material, heavy water or nuclear grade graphite; or (iv) 1,000 curies of tritium, to any country listed in § 110.28 or § 110.29.

(7) Any export subject to special limitations as determined by the staff or a majority of the Commissioners.

43 FR 21641

(c) If the Commission has not completed action on a license application within 60 days after receipt of the Executive Branch judgment, as provided for in § 110.41, or the license application when an Executive Branch judgment is not required, it will inform the applicant in writing of the reason for delay and, as appropriate, provide followup reports.

49 FR 47191

§ 110.41 Executive Branch review.

(a) A license application for export of the following will be promptly forwarded to the Executive Branch for review:

(1) A production or utilization facility.

(2) More than one effective kilogram of high-enriched uranium or 10 grams of plutonium or U-233.

(3) Deuterium, nuclear grade graphite, or over 100 curies of tritium.

(4) Source or special nuclear material to be exported under the US–IAEA Agreement for Cooperation.

(5) An export involving assistance to end uses related to isotope separation, chemical reprocessing, heavy water production, advanced reactors or the fabrication of nuclear fuel containing plutonium, except for categories of exports approved in advance by the Executive Branch as constituting permitted incidental assistance.

(6) The initial export of nuclear material or equipment to a foreign reactor.

(7) An export to any country listed in § 110.28 or § 110.29.

(8) An export subject to special limitations as determined by the Commission or the Executive Branch.

43 FR 21641

(b) The Executive Branch will be requested to:

(1) Provide its judgment as to whether the proposed export would be inimical to the common defense and security, along with supporting rationale and information.

(2) Where applicable, confirm that the proposed export would be under the terms of an agreement for cooperation; and

(3) Address the extent to which the export criteria in section 110.42 are met, if applicable, and the extent to which the recipient country or group of countries has adhered to the provisions of any applicable agreement for cooperation.

(c) The Commission may request the Executive Branch to address specific concerns and provide additional data and recommendations as necessary.

(d) [removed] 49 FR 47191

49 FR 47191

§ 110.42 Export licensing criteria.

(a) The review of license applications for the export for peaceful nuclear uses of production or utilization facilities,[4] special nuclear material and source material is governed by the following criteria:

(1) IAEA safeguards as required by Article III (2) of the NPT will be applied with respect to any such facilities or material proposed to be exported, to any such material or facilities previously exported and subject to the applicable agreement for cooperation, and to any special nuclear material used in or produced through the use thereof.

(2) No such material or facilities proposed to be exported or previously exported and subject to the applicable agreement for cooperation, and no special nuclear material produced through the use of such material or facilities, will be used for any nuclear explosive device or for research on or development of any nuclear explosive device.

(3) Adequate physical security measures will be maintained with respect to such material or facilities proposed to be exported and to any special nuclear material used in or produced through the use thereof. Physical security measures will be deemed adequate if such measures provide a level of protection equivalent to that set forth in § 110.43.

49 FR 47191

(4) No such material or facilities proposed to be exported, and no special nuclear material produced through the use of such material, will be retransferred to the jurisdiction of any other country or group of countries unless the prior approval of the United States is obtained for such retransfer.

(5) No such material proposed to be exported and no special nuclear material produced through the use of such material will be reprocessed, and no irradiated fuel elements containing such material removed from a reactor will be altered in form or content, unless the prior approval of the United States is obtained for such reprocessing or alteration.

(6) With respect to exports of such material or facilities to nonnuclear weapon states, IAEA safeguards will be maintained with respect to all peaceful activities in, under the jurisdiction of, or carried out under the control of such state at the time of export. This criterion will not be applied if the Commission has been notified by the President in writing that failure to approve an export because this criterion has not been met would be seriously prejudicial to the achievement of United States nonproliferation objectives or otherwise jeopardize the common defense and security, in which case the provisions of Section 128 of the Atomic Energy Act regarding Congressional review will apply.

(7) The proposed export of a facility or of more than 0.003 effective kilograms of special nuclear material, other than plutonium containing 80 percent or more by weight of plutonium-238, would be under the terms of an agreement for cooperation.

(8) The proposed export is not inimical to the common defense and security and, in the case of facility exports, does not constitute an unreasonable risk to the public health and safety in the United States.

(b) The review of license applications for the export of nuclear equipment, other than a production or utilization facility, and for deuterium and nuclear grade graphite, is governed by the following criteria:

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[4] Exports of complete nuclear reactors, complete reactor pressure vessels, primary coolant pumps, control rods and reactor fuel charging and discharging machines are subject to the comprehensive export criteria in § 110.42(a). A complete nuclear reactor includes those parts and components, as specified in § 110.8(a), which are within or attached directly to the reactor vessel, which control the level of power in the reactor core or which normally contain or come in direct contract with or control the primary coolant of the reactor. Nuclear reactor parts and components (other than complete pressure vessels, primary coolant pumps, control rods or fuel charging and discharging machines) when exported separately are subject to the export criteria in § 110.42(b).

(1) IAEA safeguards as required by Article III (2) of the NPT will be applied with respect to such equipment or material.

(2) No such equipment or material will be used for any nuclear explosive device or for research on or development of any nuclear explosive device.

(3) No such equipment or material will be retransferred to the jurisdiction of any other country or group of countries without the prior consent of the United States.

(4) The proposed export is not inimical to the common defense and security.

(c) The review of license applications for the export of byproduct material and for source material for nonnuclear end uses is governed by the criterion that the proposed export is not inimical to the common defense and security.

§ 110.43 Physical security standards.

(a) Commission determinations on the adequacy of physical security programs in recipient countries for Category I quantities of nuclear material (see Appendix B) are based upon the following:

(1) Review of the physical security program established by the recipient country and of the implementation of the national requirements, as considered through country visits and other information exchanges, to ensure that the physical security measures provide, as a minimum, protection comparable to that set forth in International Atomic Energy publication INFCIRC/225/Rev. 1, entitled "The Physical Protection of Nuclear Material" (INFCIRC/225), which is incorporated by reference in this part. This incorporation by reference was approved by the Director of the **Federal Register** on May 3, 1978. Notice of any changes to the publication will be published in the **Federal Register**. Copies of INFCIRC/225 may be obtained from the Assistant Director for Export/Import and International Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and are available for inspection in the Commission Public Document Room. A copy is on file in the library of the Office of the Federal Register.

(2) Written assurances from the recipient country or group of countries that physical security measures providing, as a minimum, protection comparable to that set forth in INFCIRC/225 will be maintained.

(b) Commission determinations on the adequacy of physical security programs in recipient countries for Category II and III quantities of material (see Appendix B) are based on available relevent information and written assurances from the recipient country or group of countries that physical security measures providing, as a minimum, protection comparable to that set forth in INFCIRC/225 will be maintained.

(c) Commission determinations on the adequacy of physical security programs in recipient countries for exported facilities are made in accordance with the categories of material (see Appendix B) in use or in storage at the exported facilities and are based on available relevant information and written assurances from the recipient country or group of countries that physical security measures providing, as a minimum, protection comparable to that set forth in INFCIRC/225 will be maintained.

(d) Commission determinations may be based on a country-wide finding rather than on case-by-case analysis. The Commission will reexamine a determination whenever there are changed circumstances within a country that might reduce the effectiveness of its physical security program.

§ 110.44 Issuance or denial of licenses.

(a) The Commission will issue an export license if it has been notified by the State Department that it is the judgment of the Executive Branch that the proposed export will not be inimical to the common defense and security; and—

(1) Finds, based upon a reasonable judgment of the assurances provided and other information available to the Federal government, that the applicable criteria in § 110.42, or their equivalent, are met. (If an Executive Order provides an exemption pursuant to section 126a of the Atomic Energy Act, proposed exports to EURATOM countries are not required to meet the critieria in § 110.42(a) (4) and (5)); or

(2) Finds that there are no material changed circumstances associated with an export license application (except for byproduct material applications) from those existing at the time of issuance of a prior license to export to the same country, if the prior license was issued under the provisions of paragraph (a)(1) of this section.

(b) The Commission will issue an import license if it finds that the proposed import would not be inimical to the common defense and security or constitute an unreasonable risk to the public health and safety and that any applicable requirements of Subpart A of Part 51 of this chapter have been satisfied.

(c) If, after receiving the Executive Branch judgment that the issuance of a proposed export license will not be inimical to the common defense and security, the Commission does not issue the proposed license on a timely basis because it is unable to make the statutory determinations required under the Atomic Energy Act, the Commission will publicly issue a decision to that effect, and will submit the license application to the President. The Commission's decision will include an explanation of the basis for the decision and any dissenting or separate views. The provisions in this paragraph do not apply to byproduct material export license applications.

(d) The Commission will deny: (1) Any export license application for which the Executive Branch judgment does not recommend approval; (2) any byproduct material export license application for which the Commission is unable to make the finding in paragraph (a)(1) of this section; or (3) any import license application for which the Commission is unable to make the finding in paragraph (b) of this section. The applicant will be notified in writing of the reason for denial.

§ 110.45 Conduct resulting in termination of nuclear exports.

(a) Except as provided in paragrah (c) of this section, no license will be issued to export nuclear equipment or material, other than byproduct material, to any nonnuclear weapon state that is found by the President to have, after March 10, 1978:

(1) Detonated a nuclear explosive device;

(2) Terminated or abrogated IAEA safeguards;

(3) Materially violated an IAEA safeguards agreement; or

(4) Engaged in activities involving source or special nuclear material and having direct significance for the manufacture or acquisition of nuclear explosive devices, and failed to take steps which represent sufficient progress toward terminating such activities.

(b) Except as provided in paragraph (c) of this section, no license will be issued to export nuclear equipment or material, other than byproduct material, to any country or group of countries that is found by the President to have, after March 10, 1978:

(1) Materially violated an agreement for cooperation with the United States or the terms of any other agreement under which nuclear equipment or material has been exported;

(2) Assisted, encouraged or induced any non-nuclear weapon state to engage in activities involving source or special nuclear material and having direct significance for the manufacture or acquistion of nuclear explosive devices, and failed to take steps which represent sufficient progress toward terminating such assistance, encouragement or inducement; or

(3) Entered into an agreement for the transfer of reprocessing equipment, materials or technology to the sovereign control of a non-nuclear weapon state, except in connection with an international fuel cycle evaluation in which the United States is a participant or pursuant to an international agreement or understanding to which the United States subscribes.

49 FR 47191

(c) Under section 129 of the Atomic Energy Act, the President may waive the requirement for the termination of exports to a country described in paragraph (a) or (b) of this section after determining in writing that the cessation of exports would seriously prejudice the achievement of United States nonproliferation objectives or otherwise jeopardize the common defense and security. If the President makes this determination, the Commission will issue licenses to export to that country, if other applicable statutory provisions are met.

43 FR 21641

Subpart F—License Terms and Related Provisions

§ 110.50 Terms.

(a) General and specific licenses.

(1) Each license is subject to all applicable provisions of the Atomic Energy Act and to all applicable rules, regulations, decisions and orders of the Commission.

(2) Each license is subject to amendment, suspension, revocation or incorporation of separate conditions when required by amendments of the Atomic Energy Act or other applicable law, or by other rules, regulations, decisions or orders issued in accordance with the terms of the Atomic Energy Act or other applicable law.

(3) Each license authorizes export or import only and does not authorize any person to receive title to, acquire, receive, possess, deliver, use or transfer nuclear equipment or material.

(4) Each nuclear material license authorizes the export or import of only the nuclear material and accompanying packaging and fuel element hardware.

(5) No nuclear equipment license confers authority to export or import nuclear material.

(6) Each nuclear equipment export license authorizes the export of only those items required for use in the foreign nuclear installation for which the items are intended.

(7) A licensee shall not proceed to export or import and shall notify the Commission promptly if he knows or has reason to believe that the packaging requirements of Part 71 of this chapter have not been met.

49 FR 49841

(b) Specific licenses.

(1) Each specific license will have an expiration date.

(2) A licensee may export or import only for the purpose stated in the license application.

(3) Unless a license specifically authorizes the export of foreign-origin nuclear material or equipment, a licensee shall notify in writing the Assistant Director for Export/Import and International Safeguards at least 40 days prior to export of Australian-origin nuclear material or equipment. A licensee may not ship this material or equipment until authorized by the Assistant Director for Export/Import and International Safeguards. The Assistant Director will not authorize shipment until after obtaining the consent of the Australian Government.

(4) A licensee authorized to export or import special nuclear material is responsible for compliance with the physical protection requirements of Part 73 of this chapter, unless a domestic licensee of the Commission has assumed that responsibility and the Commission has been so notified.

50 FR 12221

(5) A licensee authorized to export or import nuclear material is responsible for compliance with applicable requirements of Parts 40, 70, and 73 of this chapter, unless a domestic licensee of the Commission has assumed that responsibility and the Commission has been so notified.

(next page is 110-8a)

§ 110.51 Amendment and renewal of licenses.

(a) A licensee may submit an application to renew a license or to amend a license.

(b) If an application to renew a license is submitted 30 days or more before the license expires, the license remains valid until the Commission acts on the renewal application. An expired license is not renewable.

(c) An amendment is not required for—

(1) Changes in value (but not amount or quantity);

(2) Changes in the mailing addresses within the same countries of intermediate or ultimate consignees; or

(3) The addition of intermediate consignees in any of the importing countries specified in the license (for a nuclear equipment license only).

(d) In acting upon license renewal and amendment applications, the Commission will use, as appropriate, the same procedures and criteria it uses for original license applications.

49 FR 47191

§ 110.52 Revocation, suspension, and modification.

(a) A license may be revoked, suspended, or modified for a condition which would warrant denial of the original license application.

(b) The Commission may require further information from a licensee to determine whether a license should be revoked, suspended, or modified.

(c) Except when the common defense and security or public health and safety requires otherwise, no license will be revoked, suspended, or modified before the licensee is informed in writing of the grounds for such action and afforded the opportunity to reply and be heard under procedures patterned on those in subpart J.

§ 110.53 United States address, records, and inspections.

(a) Each licensee shall have an office in the United States where papers may be served and where records required by the Commission will be maintained.

43 FR 21641

(b) Each licensee shall maintain a record of each export or import for 5 years (2 years for byproduct material).

49 FR 47191

(c) Each licensee shall permit the Commission to inspect his records, premises, and activities pertaining to his exports and imports when necessary to fulfill the requirements of the Atomic Energy Act.

Subpart G—Violations and Enforcement

§ 110.60 Violations.

(a) A licensee who violates a provision of the Atomic Energy act or title II of the Energy Reorganization Act or of any rule, regulation, license, or order promulgated under these Acts may be guilty of a crime, and, upon conviction, may be punished by fine and imprisonment as provided by law;

(b) An injuction or other court order may be obtained to prohibit any such violation.

(c) A court order may be obtained for payment of a civil penalty imposed pursuant to section 234 of the Atomic Energy Act.

(d) A violation may result in the revocation, suspension, or modification of a license.

§ 110.61 Notice of violation.

(a) Before instituting any enforcement action the Commission will serve on the licensee written notice of violation, except as provided in paragraph (d).

(b) The notice will state the alleged violation; require the licensee to respond in writing, within 20 days or other specified time; and may also require the licensee to state the corrective steps taken or to be taken and the date when full compliance will be achieved.

(c) The notice may provide that, if an adequate and timely reply is not received, an order to show cause may be issued pursuant to § 110.62 or a proceeding instituted to impose a civil penalty pursuant to § 110.64.

(d) The notice may be omitted and an order to show cause issued when the Commission determines that the violation is willful or that the public health, safety, or interest so requires.

§ 110.62 Order to show cause.

(a) In response to an alleged violation, described in § 110.60, the Commission may institute a proceeding to revoke, suspend, or modify a license by issuing an order to show cause:

(1) Stating the alleged violation and proposed enforcement action; and

(2) Informing the licensee of his right, within 20 days or other specified time, to file a written answer and demand a hearing.

(b) An answer consenting to the proposed enforcement action shall constitute a waiver by the licensee of a hearing and of all rights to seek further Commission or judicial review.

(c) The order to show cause may be omitted and an order issued to revoke, suspend, or modify the license in cases where the Commission determines that the violation is willful or that the public health, safety, or interest so requires.

§ 110.63 Order for revocation, suspension, or modification.

(a) In response to an alleged violation described in § 110.60, the Commission may revoke, suspend, or modify a license by issuing an order:

(1) Stating the violation and the effective date of the proposed enforcement action; and

(2) Informing the licensee of his right, within 20 days or other specified time, to file a written answer and demand a hearing.

(b) If an answer is not filed within the time specified, the enforcement action will become effective and permanent as proposed.

(c) If a timely answer is filed, the Commission, after considering the answer, will issue an order dismissing the proceeding, staying the effectiveness of the order or taking other appropriate action.

(d) The order may be made effective immediately, with reasons stated, pending further hearing and order, when the Commission determines that the violation is willful or that the public health, safety, or interest so requires.

§ 110.64 Civil penalty.

(a) In response to a violation, the Commission may institute a proceeding to impose a civil penalty under section 234 of the Atomic Energy Act by issuing a notice to the licensee:

(1) Stating the alleged violation and the amount of the proposed penalty;

(2) Informing the licensee of his right, within 20 days or other specified time, to file a written answer; and

(3) Advising that a delinquent payment for a subsequently imposed penalty may be referred to the Attorney General for collection pursuant to section 234c. of the Atomic Energy Act.

(b) If an answer is not filed within the time specified, the Commission will issue an order imposing the proposed penalty.

(c) If a timely answer is filed, the Commission, after considering the answer, will issue an order dismissing the proceeding or imposing a penalty subject to any required hearing.

(d) If an order imposing a civil penalty is issued, the licensee may request a hearing within 20 days or other specified time.

(e) Except when the matter has been referred to the Attorney General for

43 FR 21641

43 FR 21641

collection, payment of penalties shall be made by check, draft, or money order payable to the Treasurer of the United States, and mailed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

(f) An enforcement action to impose a civil penalty will not itself revoke, modify, or suspend any license under this part.

§ 110.65 Settlement and compromise.

At any time after issuance of an order for any enforcement action under this subpart, an agreement may be entered into for settlement of the proceeding or compromise of a penalty. Upon approval by the Commission, or presiding officer if a hearing has been requested, the terms of the settlement or compromise will be embodied in the order disposing of the enforcement action.

§ 110.66 Enforcement hearing.

(a) If the licensee demands a hearing, the Commission will issue an order specifying the time and place.

(b) A hearing pursuant to this subpart will be conducted under the procedures in subpart G of Part 2.

Subpart H—Public Notification and Availability of Documents and Records

§ 110.70 Public notice of receipt of an application.

(a) The Commission will notice the receipt of each export or import license application by placing a copy in the Public Document Room.

49 FR 47191

(b) The Commission will also publish in the **Federal Register** a notice of receipt of an application for a license to export the following:

(1) A production or utilization facility.

(2) Five effective kilograms or more of plutonium, high-enriched uranium or uranium-233.

(3) 10,000 kilograms or more of heavy water or nuclear grade graphite.

43 FR 21641

(c) Periodic lists of applications received may be obtained upon request addressed to the Assistant Director for Export/Import and International Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

§ 110.71 Notice of withdrawal of an application.

The Commission will notice the withdrawal of an application by placing a copy of the withdrawal request in the Public Document Room.

§ 110.72 Availability of documents in the Public Document Room.

Unless exempt from disclosure under part 9 of this chapter, the following documents pertaining to each license application and license will be made available in the Public Document Room:

(a) The license application and any requests for amendments;

(b) Commission correspondence with the applicant or licensee;

(c) Federal Register notices;

(d) The Commission letter requesting Executive Branch views;

(e) Correspondence from the State Department with Executive Branch views;

(f) Correspondence from foreign governments and international organizations;

(g) Filings pursuant to subpart I and Commission and Executive Branch responses, if any;

(h) If a hearing is held, the hearing record and decision;

(i) A statement of staff conclusions; and

(j) The license, requests for license amendments and amendments.

§ 110.73 Availability of NRC records.

(a) Commission records under this part will be made available to the public only in accordance with part 9 of this chapter.

(b) Proprietary information provided under this part may be protected under part 9 and § 2.790 (b), (c), and (d) of this chapter.

Subpart I—Public Participation Procedures Concerning License Applications

§ 110.80 Basis for hearings.

The procedures in this Part will constitute the exclusive basis for hearings on export license applications.

43 FR 21641

§ 110.81 Written comments.

(a) The Commission encourages written comments from the public regarding export and import license applications. The Commission will consider and, if appropriate, respond to these comments.

(b) If possible, these comments should be submitted within 30 days after public notice of receipt of the application and addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Chief, Docketing and Service Branch.

(c) The Commission will provide the applicant with a copy of the comments and, if appropriate, a reasonable opportunity for response.

§ 110.82 Hearing request or intervention petition.

(a) A person may request a hearing or petition for leave to intervene on a license application.

49FR47191

(b) Hearing requests and intervention petitions must—

43 FR 21641

(1) State the name, address and telephone number of the requestor or petitioner;

(2) Set forth the issues sought to be raised;

49 FR 47191

(3) Explain why a hearing or an intervention would be in the public interest and how a hearing or intervention would assist the Commission in making the determinations required by § 110.44.

(4) Specify, when a person asserts that his interest may be affected, both the facts pertaining to his interest and how it may be affected, with particular reference to the factors in § 110.84.

(c) Hearing requests and intervention petitions will be considered timely only if filed not later than:

(1) 30 days after notice of receipt in the Federal Register, for those applications published in the Federal Register;

(2) 15 days after notice of receipt in the Public Document Room, for all other applications; or

(3) Such other time as may be provided by the Commission.

49 FR 47191

§ 110.83 Answers and replies.

(a) Unless otherwise specified by the Commission, an answer to a hearing request or intervention petition may be filed within 30 days after the request or petition has been served.

43 FR 21641

(b) Unless otherwise specified by the Commission, a reply to an answer may be filed within 10 days after all timely answers have been filed.

(c) Answers and replies should address the factors in § 110.84.

§ 110.84 Commission action on a hearing request or intervention petition.

(a) In an export licensing proceeding, or in an import licensing proceeding in which a hearing request or intervention petition does not assert or establish an interest which may be affected, the Commission will consider:

(1) Whether a hearing would be in the public interest; and

(2) Whether a hearing would assist the Commission in making the statutory determinations required by the Atomic Energy Act.

(b) If a hearing request or intervention petition asserts an interest which may be affected, the Commission will consider:

(1) The nature of the alleged interest;

(2) How that interest relates to issuance or denial; and

(3) The possible effect of any order on that interest, including whether the relief requested is within the Commission's authority, and, if so, whether granting relief would redress the alleged injury.

(c) Untimely hearing requests or intervention petitions may be denied unless good cause for failure to file on time is established. In reviewing untimely requests or petitions, the Commission will also consider:

(1) The availability of other means by which the requestor's or petitioner's interest, if any, will be protected or represented by other participants in a hearing; and

(2) The extent to which the issues will be broadened or action on the application delayed.

49FR47191

(d) Before granting or denying a hearing request or intervention petition, the Commission will review the

Executive Branch's views on the license application and may request further information from the petitioner, requester, the Commission staff, the Executive Branch or others.

(e) The Commission will deny a request or petition that pertains solely to matters outside its jurisdiction.

(f) If an issue has been adequately explored in a previous licensing hearing conducted pursuant to this part, a request for a new hearing in connection with that issue will be denied unless:

(1) A hearing request or intervention petition establishes that an interest may be affected; or

(2) The Commission determines that changed circumstances or new information warrant a new hearing.

(g) After consideration of the factors covered by paragraphs (a) through (f), the Commission will issue a notice or order granting or denying a hearing request or intervention petition. Upon the affirmative vote of two Commissioners a hearing will be ordered. A notice granting a hearing will be published in the Federal Register and will specify whether the hearing will be oral or consist of written comments. A denial notice will set forth the reasons for denial.

§ 110.85 Notice of hearing consisting of written comments.

(a) A notice of hearing consisting of written comments will:

(1) State the issues to be considered;

(2) Provide the names and addresses of participants;

(3) Specify the time limits for participants and others to submit written views and respond to any written comments; and

(4) State any other instructions the Commission deems appropriate.

(b) The Secretary will give notice of any hearing under this section and § 110.86 to any person who so requests.

§ 110.86 Notice of oral hearing.

(a) A notice of oral hearing will:

(1) State the time, place and issues to be considered;

(2) Provide names and addresses of participants;

(3) Designate the presiding officer;

(4) Specify the time limit for participants and others to indicate whether they wish to present views; and

(5) State any other instructions the Commission deems appropriate.

(b) If the Commission is not the presiding officer, the notice of oral hearing will also state:

(1) When the jurisdiction of the presiding officer commences and terminates;

(2) The powers of the presiding officer; and

(3) Instructions to the presiding officer to certify promptly the completed hearing record to the Commission without preliminary decision or findings, unless the Commission directs otherwise.

§ 110.87 Conditions in a notice or order.

(a) A notice or order granting a hearing or permitting intervention may restrict irrelevant or duplicative testimony, or require common interests to be represented by a single spokesman.

(b) If a participant's interests do not extend to all the issues in the hearing, the notice or order may limit his participation accordingly.

(c) Unless authorized by the Commission, the granting of participation will not broaden the hearing issues.

§ 110.88 Authority of the Secretary.

The Secretary is authorized to prescribe time schedules and other procedural arrangements, when not covered by this part, and rule on related procedural requests.

§ 110.89 Filing and service.

(a) Hearing requests, intervention petitions, answers, replies and accompanying documents must be filed with the Commission by delivery or by mail or telegram to the Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, ATTN: Chief, Docketing and Service Branch. Filing by mail or telegram is complete upon deposit in the mail or with a telegraph company.

(b) All filing and Commission notices and orders must be served upon the applicant; the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, DC 20555; the Executive Secretary, Department of State, Washington, DC 20520; and participants if any. Hearing requests, intervention petitions, and answers and replies must be served by the person filing those pleadings.

(c) Service is completed by:

(1) Delivering the paper to the person; or leaving it in his office with someone in charge; or, if there is no one in charge, leaving it in a conspicuous place in the office; or, if he has no office or it is closed, leaving it at his usual place of residence with some occupant of suitable age and discretion;

(2) Depositing it with a telegraph company, properly addressed and with charges prepaid;

(3) Depositing it in the United States mail, properly stamped and addressed; or

(4) Any other manner authorized by law, when service cannot be made as provided in subparagraphs (1) through (3).

(d) Proof of service, stating the name and address of the person served and the manner and date of service, shall be shown, and may be made by—

(1) Written acknowledgment of the person served or an authorized representative; or

(2) The certificate or affidavit of the person making the service.

(e) The Commission may make special provisions for service when circumstances warrant.

§ 110.90 Computation of time.

(a) In computing time, the first day of a designated time period is not included and the last day is included. If the last day is a Saturday, Sunday or legal holiday at the place where the required action is to be accomplished, the time period will end on the next day which is not a Saturday, Sunday or legal holiday.

(b) In time periods of 7 days or less, Saturdays, Sundays and holidays are not counted.

(c) Whenever an action is required within a prescribed period by a paper served pursuant to § 110.89, 3 days shall be added to the prescribed period if service is by mail.

(d) An interpretation of this section is contained in § 8.3 of this chapter.

§ 110.91 Commission consultations.

The Commission may consult at any time on a license application with the staff, the Executive Branch or other persons.

Subpart J—Hearings

§ 110.100 Public hearings.

Hearings under this part will be public unless the Commission directs otherwise.

§ 110.101 Filing and service.

Filing and service of hearing documents shall be pursuant to § 110.89.

§ 110.102 Hearing docket.

For each hearing, the Secretary will maintain a docket which will include the hearing transcript, exhibits and all papers filed or issued pursuant to the hearing.

§ 110.103 Acceptance of hearing documents.

(a) Each document filed or issued must be clearly legible and bear the docket number, license application number and hearing title.

(b) Each document shall be filed in one original and signed by the participant or his authorized representative, with his address and date of signature indicated. The signature is a representation that the document is submitted with full authority, the signator knows its contents and that, to the best of his knowledge, the statements made in it are true.

(c) A document not meeting the requirements of this section may be returned with an explanation for nonacceptance and, if so, will not be docketed.

§ 110.104 Presiding officer.

(a) The full Commission will ordinarily be the presiding officer at a hearing under this part. However, the Commission may provide in a hearing notice that one or more Commissioners, or any other person as provided by law, will preside.

(b) A participant may submit a written motion for the disqualification of any person presiding. The motion shall be supported by affidavit setting forth the alleged grounds for disqualification. If the presiding officer does not grant the motion or the person does not disqualify himself, the Commission will decide the matter.

(c) If any presiding officer designated by the Commission deems himself disqualified, he shall withdraw by notice on the record after notifying the Commission.

(d) If a presiding officer becomes unavailable, the Commission will designate a replacement.

(e) Any motion concerning the designation of a replacement presiding officer shall be made within 5 days after the designation.

(f) Unless otherwise ordered by the Commission, the jurisdiction of a presiding officer other than the Commission commences as designated in the hearing notice and terminates upon certification of the hearing record to the Commission, or when the presiding officer is disqualified.

43 FR 21641

§ 110.105 Responsibility and power of the presiding officer in an oral hearing.

(a) The presiding officer in any oral hearing shall conduct a fair hearing, develop a record that will contribute to informed decisionmaking, and, within the framework of the Commission's orders, have the power necessary to achieve these ends, including the power to:

(1) Take action to avoid unnecessary delay and maintain order;

(2) Dispose of procedural requests;

(3) Question participants and witnesses, and entertain suggestions as to questions which may be asked of participants and witnesses;

(4) Order consolidation of participants;

(5) Establish the order of presentation;

(6) Hold conferences before or during the hearing;

(7) Establish reasonable time limits;

(8) Limit the number of witnesses; and

(9) Strike or reject duplicative or irrelevant presentations.

(b) Where the Commission itself does not preside:

(1) The presiding officer may certify questions or refer rulings to the Commission for decision;

(2) Any hearing order may be modified by the Commission; and

(3) The presiding officer will certify the completed hearing record to the Commission, which may then issue its opinion on the hearing or provide that additional testimony be presented.

§ 110.106 Participation in a hearing.

(a) Unless otherwise limited by this part or by the Commission, participants in a hearing may submit:

(1) Initial and concluding written statements of position on the issues;

(2) Written questions to the presiding officer; and

(3) Written responses and rebuttal testimony to the statements of other participants.

(b) Participants in an oral hearing may also submit oral statements, questions, responses and rebuttal testimony.

(c) A participant in an import licensing hearing establishing that his interest may be affected, may be accorded additional procedural rights under Subpart G of Part 2 with respect to resolution of domestic factual issues regarding the public health, safety and environment of the United States, and the protection of the United States public against domestic theft, diversion or sabotage, to the extent that such issues are separable from the nondomestic issues associated with the license application.

§ 110.107 Presentation of testimony in an oral hearing.

(a) All direct testimony in an oral hearing shall be filed no later than 7 days before the hearing or as otherwise ordered or allowed.

(b) Written testimony will be received into evidence in exhibit form.

43 FR 21641

(c) Unless proscribed under § 110.87, members of groups which are designated as participants may testify in their individual capacities.

(d) Participants may present their own witnesses.

(e) Testimony by the Commission and the Executive Branch will be presented only by persons officially designated for that purpose.

(f) Participants and witnesses will be questioned orally or in writing and only by the presiding officer. Questions may be addressed to individuals or to panels of participants or witnesses.

(g) The presiding officer may accept written testimony from a person unable to appear at the hearing, and may request him to respond to questions.

(h) No subpoenas will be granted at the request of participants for attendance and testimony of participants or witnesses or the production of evidence.

§ 110.108 Appearance in an oral hearing.

(a) A participant may appear in a hearing on his own behalf or be represented by an authorized representative.

(b) A person appearing shall file a written notice stating his name, address and telephone number, and if an authorized representative, the basis of his eligibility and the name and address of the participant on whose behalf he appears.

(c) A person may be excluded from a hearing for disorderly, dilatory or contemptuous conduct, provided he is informed of the grounds and given an opportunity to respond.

§ 110.109 Motions and requests.

(a) Motions and requests shall be addressed to the presiding officer, and, if written, also filed with the Secretary and served on other participants.

(b) Other participants may respond to the motion or request. Responses to written motions or requests shall be filed within 5 days after service.

(c) When the Commission does not preside, in response to a motion or request, the presiding officer may refer a ruling or certify a question to the Commission for decision and notify the participants.

(d) Unless otherwise ordered by the Commission, a motion or request, or the certification of a question or referral of a ruling, shall not stay or extend any aspect of the hearing.

§ 110.110 Default.

When a participant fails to act within a specified time, the presiding officer may consider him in default, issue an appropriate ruling and proceed without further notice to the defaulting participant.

§ 110.111 Waiver of a rule or regulation.

(a) A participant may petition that a Commission rule or regulation be waived with respect to the license application under consideration.

43 FR 21641

(b) The sole ground for a waiver shall be that, because of special circumstances concerning the subject of the hearing, application of a rule or regulation would not serve the purposes for which it was adopted.

(c) Waiver petition shall specify why application of the rule or regulation would not serve the purposes for which it was adopted.

(d) Other participants may, within 10 days, file a response to a waiver petition.

(e) When the Commission does not preside, the presiding officer will certify the waiver petition to the Commission, which, in response, will grant or deny the waiver or direct any further proceedings.

(f) Regardless of whether a waiver is granted or denied, a separate petition for rulemaking may be filed pursuant to Subpart L of this part.

§ 110.112 Reporter and transcript for an oral hearing.

(a) A reporter designated by the Commission will record an oral hearing and prepare the official hearing transcript.

(b) Except for any classified portions, transcripts will be placed in the Public Document Room, and copies may be purchased from the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

(c) Corrections of the official transcript may be made only as specified by the Secretary.

§ 110.113 Commission action.

(a) Upon completion of a hearing, the Commission will issue a written opinion including its decision on the license application, the reasons for the decision and any dissenting views.

(b) While the Commission will consider fully the hearing record, the licensing decision will be based on all relevant information, including information which might go beyond that in the hearing record.

(c) If the Commission considers information not in the hearing record in reaching its licensing decision, the hearing participants will be informed and, if not classified or otherwise privileged, the information will be placed in the Public Document Room and furnished to the participants.

(d) The Commission may issue a license before completion of a hearing if it finds that:

(1) Prompt issuance is required in the public interest, particularly the common defense and security; and

(2) A participant establishing that his interest may be affected has been provided a fair opportunity to present his views.

(e) The Commission may:

(1) Defer any hearing;

(2) Consolidate applications for hearing;

(3) Narrow or broaden the hearing issues; and

(4) Take other action, as appropriate.

43 FR 21641

Subpart K—Special Procedures for Classified Information in Hearings

§ 110.120 Purpose and scope.

(a) This subpart contains special procedures concerning access to, and introduction of, classified information into hearings under this part.

(b) These procedures do not in any way apply to classified information exchanged between the Executive Branch and the Commission not introduced into a hearing. Such information will be declassified to the maximum extent feasible. The public statements of the Commission staff and Executive Branch will, to the extent consistent with classification requirements, reflect consideration of any such classified information.

§ 110.121 Security clearances and access to classified information.

(a) No person without a security clearance will have access to classified information.

(b) Only the Commission will act upon an application for access to classified information.

(c) To the extent practicable, applications for access to classified information shall describe the information to which access is desired and its level of classification (confidential, secret or other); the reasons for requesting access; the names of individuals for whom access is requested; and the reasons why access is requested for those individuals.

(d) The Commission will consider requests for appropriate security clearances in reasonable numbers; conduct its review and grant or deny these in accordance with Part 10 of this chapter; and make a reasonable charge to cover costs.

(e) The Commission will not grant security clearances for access to classified information, unless it determines that the available unclassified information is inadequate on the subject matter involved.

(f) When an application demonstrates that access to classified information not introduced into a hearing may be needed to prepare a participant's position on the hearing issues, the Commission may issue an order granting access to this information to the participant, his authorized representative or other persons. Access will be subject to the conditions in paragraphs (e) and (j) and will not be granted unless required security clearances have been obtained.

(g) Once classified information has been introduced into a hearing, the Commission will grant access to a participant, his authorized representative or such other persons as the Commission determines may be needed by the participant to prepare his position on the hearing issues. Access will be subject to the conditions in paragraph (e) and (j) and will not be granted unless required security clearances have been obtained.

43 FR 21641

(h) For good cause, the Commission may postpone action upon an application for access to classified information.

(i) The Commission will grant access to classified information only up to the level for which the persons described in paragraphs (f) and (g) of this section are cleared and only upon an adequate commitment by them not to disclose such information subject to penalties as provided by law.

(j) The Commission will not in any circumstances grant access to classified information:

(1) Unless it determines that the grant is not inimical to the common defense and security; and

(2) Which it has received from another Government agency, without the prior consent of the originating agency.

(k) Upon completion of a hearing, the Commission will terminate all security clearances granted pursuant to the hearing and may require the disposal of classified information to which access has been granted or the observance of other procedures to safeguard this information.

§ 110.122 Classification assistance.

On the request of any hearing participant or the presiding officer (if other than the Commission), the Commission will designate a representative to advise and assist the presiding officer or the participants with respect to security classification of information and the protective requirements to be observed.

§ 110.123 Notice of intent to introduce classified information.

(a) A participant shall seek the required security clearances, where necessary, and file with the Secretary a notice of intent to introduce classified information into a hearing at the earliest possible time after the notice of hearing.

(b) If a participant has not filed a notice of intent in accordance with this section, he may introduce classified information only if he gives to the other participants and the Commission prompt written notice of intent and only as permitted by the Commission when it determines that the public interest will not be prejudiced.

(c) The notice of intent shall be unclassified and, to the extent consistent with classification requirements, state:

(1) The subject matter of the classified information, which it is anticipated will be involved;

(2) The highest level of classification of the information (confidential, secret or other);

(3) When it is anticipated that the information would be introduced; and

(4) The relevance and materiality of the information to the hearing issues.

43 FR 21641

§ 110.124 Rearrangement or suspension of a hearing.

When a participant gives notice of intent to introduce classified information and other participants do not have the required security clearances, subject to § 110.121, the Commission may:

(a) Suspend or rearrange the normal order of the hearing to give other participants an opportunity to obtain the required security clearances with minimum delay in the conduct of the hearing; or

(b) Take such other action as it determines to be in the public interest.

§ 110.125 Unclassified statements required.

(a) It is the obligation of hearing participants to introduce information in unclassified form wherever possible, and to declassify, to the maximum extent feasible, any classified information introduced into the hearing. This obligation rests on each participant whether or not any other participant has the required security clearances.

(b) When classified information is offered for introduction into a hearing:

(1) The participant offering it shall, to the extent consistent with classification requirements, submit to the presiding officer and other participants an unclassified statement describing the substance of the classified information as accurately and completely as possible;

(2) In accordance with procedures

agreed upon by the participants or prescribed by the presiding officer, and after notice to all participants and opportunity to be heard on the notice, the presiding officer will determine whether an unclassified statement may be substituted for the classified information in the hearing record without prejudice to the interest of any participant or the public;

(3) If the Commission determines that the unclassified statement (together with such unclassified modifications as it finds are necessary or appropriate to protect the interest of other participants and the public) adequately sets forth information in the classified matter which is relevant and material to the issues in the hearing, it will direct that the classified matter be excluded from the record of the hearing; and

(4) The Commission may postpone any of the procedures in this section until all other evidence has been received. However, a participant shall not postpone service of any unclassified statement required in this section.

§ 110.126 Protection of classified information.

Nothing in this subpart shall relieve any person from safeguarding classified information as required by law and rules, regulations or orders of any Government agency.

Subpart L—Rulemaking

43 FR 21641

§ 110.130 Initiation of rulemaking.

The Commission may initiate action to amend the regulations in this part on its own initiative or in response to a petition.

§ 110.131 Petition for rulemaking.

(a) A petition for rulemaking should be addressed to the Secretary, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Chief, Docketing and Service Branch.

(b) The petition shall state the basis for the requested amendment.

(c) The petition may request the Commission to suspend all or part of any licensing proceeding under this part pending disposition of the petition.

(d) The Secretary will assign a docket number to the petition, place a copy in the Public Document Room and notice its receipt in the Federal Register.

(e) Publication may be limited by order of the Commission to the extent required by section 181 of the Atomic Energy Act.

§ 110.132 Commission action on a petition.

(a) The Commission may grant or deny the petition in whole or in part.

(b) If the petition is granted, a notice of proposed rulemaking or a notice of rulemaking will be published in the Federal Register.

(c) If the petition is denied, the petitioner will be informed of the grounds.

(d) Commission action on a petition will normally follow, whenever appropriate, receipt and evaluation of Executive Branch views.

(e) The Commission, in exercising the discretion authorized by section 4(a)(1) of the Administrative Procedure Act (5 U.S.C. 553(a)(1)), will decide what, if any, public rulemaking procedures will be followed.

§ 110.133 Notice of proposed rulemaking.

(a) When the Commission proposes to amend the regulations in this part, it will normally publish a notice of proposed rulemaking in the Federal Register.

(b) A notice of proposed rulemaking will include:

(1) The authority for the proposed rule;

(2) The substance and purpose of the proposed rule;

(3) Directions for public participation;

(4) The time and place of any public hearing; and

(5) If a hearing is to be held by other than the Commission, designating of a presiding officer and instructions for the conduct of the hearing.

43 FR 21641

(c) A notice of proposed rulemaking will be published not less than 15 days before any hearing, unless the Commission for good cause provides otherwise in the notice.

§ 110.134 Public participation.

(a) The Commission may hold an oral hearing on a proposed rule or permit any person to participate in a rulemaking proceeding through the submission of written comments.

(b) When it is in the public interest and is authorized by law, public rulemaking procedures may be omitted and a notice of rulemaking published pursuant to § 110.135.

§ 110.135 Notice of rulemaking.

(a) Upon approval of an amendment, the Commission will publish in the Federal Register a notice of rulemaking which includes a statement of its basis and purpose, effective date and, where appropriate, any significant variations from the amendment as proposed in any notice of proposed rulemaking.

(b) The effective date of an amendment will normally be no earlier than 30 days after publication of the notice of rulemaking, unless the Commission for good cause provides otherwise in the notice.

Appendix A—List of gas centrifuge enrichment plant components under NRC's export licensing authority.

49 FR 47191

1. *Assemblies and components especially designed or prepared for use in gas centrifuges.*

Note.—The gas centrifuge normally consists of a thin-walled cylinder(s) of between 75mm (3 ins.) and 400 mm (16 ins.) diameter contained in a vacuum environment and spun at high peripheral speed (of the order of 300 m/per second and more) with the central axis vertical. In order to achieve high speed, the materials of construction for the rotating rotor assembly, and hence its individual components, have to be manufactured to very close tolerances in order to minimize the unbalance. In contrast to other centrifuges, the gas centrifuge for uranium enrichment is characterized by having within the rotor chamber a rotating disc-shaped baffle(s) and a stationary tube arrangement for feeding and extracting UF_6 gas and featuring at least 3 separate channels of which 2 are connected to scoops extending from the rotor axis towards the periphery of the rotor chamber. Also contained within the vacuum environment are a number of critical items which do not rotate and which, although they are especially designed, are not difficult to fabricate nor are they fabricated out of unique materials. A centrifuge facility, however, requires a large number of these components so that quantities can provide an important indication of end use.

1.1 *Rotating Components.*

(a) Complete Rotor Assemblies: Thin-walled cylinders, or a number of interconnected thin-walled cylinders, manufactured from one of the high strength-to-density ratio materials described in the Footnote to this Section.

If interconnected, the cylinders are joined together by flexible bellows or rings as described in § 1.1(c). The rotor is fitted with an internal baffle(s) and end caps, as described in § 1.1 (d) and (e), if in final form. However, the complete assembly may be delivered only partly assembled.

49 FR 47191

(b) Rotor Tubes: Especially designed or prepared thin-walled cylinders with thickness of 12mm (.50 in.) or less, a diameter of between 75mm (3 ins.) and 400mm (16 ins.), and manufactured from one of the high strength-to-density ratio materials described in the Footnote to this Section.

(c) Rings or Bellows: Components especially designed or prepared to give localized support to the rotor tube or to join together a number of rotor tubes. The bellows in a short cylinder of wall thickness 3mm (.125 in.) or less, a diameter of between 75mm (3 ins.) and 400mm (16 ins.), having a convolute, and manufactured from one of the high strength-to-density ratio materials described in the footnote to this section.

(d) Baffles: Disc shaped components of between 75mm (3 ins.) and 400mm (16 ins.) diameter especially designed or prepared to be mounted inside the centrifuge rotor tube, in order to isolate the take-off chamber from the main separation chamber and, in some cases, to assist the UF_6 gas circulation within the main separation chamber of the rotor tube, and manufactured from one of the high strength-to-density ratio materials described in the Footnote to this Section.

(e) Top Caps/Bottom Caps: Disc shaped components of between 75mm (3 ins.) and 400mm (16 ins.) diameter especially designed or prepared to fit to the ends of the rotor tube, and so contain the UF_6 within the rotor tube, and in some cases to support, retain or contain as an integrated part, an element of the upper bearing (top cap) or to carry the rotating elements of the motor and lower bearing (bottom cap), and manufactured from one of the high strength-to-density ratio materials described in the Footnote to this Section.

Footnote

The materials used for centrifuge rotating components are:

(a) Maraging steel capable of an ultimate tensile strength of 2.050×10^9 N/m^2 (300,000 $lb/in.^2$) or more.

(b) Aluminium alloys capable of an ultimate tensile strength of 0.460×10^9 N/m^2 (67,000 $lb/in.^2$) or more.

(c) Filamentary materials suitable for use in composite structures and having a specific modulus of 12.3×10^6 or greater and a specific ultimate tensile strength of 0.3×10^6 or greater ("Specific Modulus" is the Young's Modulus in N/m^2 divided by the density in Kg/m^3. "Specific Ultimate Tensile Strength" is the ultimate tensile strength in N/m^2 divided by the density in Kg/M^3).

1.2 *Static Components.*

(a) Magnetic Suspension Bearings: Especially designed or prepared bearing assemblies consisting of an annular magnet suspended within a housing containing a damping medium. The housing will be manufactured from a UF_6 resistant material (see footnote to section 2). The magnet couples with a pole piece or a second magnet fitted to the top cap described in Section 1.1(e). The magnet may be ring-shaped with a relation between outer and inner diameter smaller or equal to 1.6.1. The magnet may be in a form having an initial permeability of 0.15 Henry/meter (120,000 in CGS units) or more, or an energy product of greater than 80.000 joules/m^3 (10×10^6 gauss-oersteds.) In addition to the usual material properties, it is a prerequisite that the deviation of the magnetic axes from the geometrical axes is limited to very small tolerances (lower than 0.1mm) or that bomogeneity of the material of the magnet is specially called for.

49 FR 47191

(b) Bearings/Dampers: Especially designed or prepared bearings comprising a pivot/cup assembly mounted on a damper. The pivot is normally a hardened steel shaft polished into a hemisphere at one end with a means of attachment to the bottom cap described in Section 1.1(e) at the other. The shaft may, however, have a hydrodynamic bearing attached. The cup is pellet-shaped with hemispherical indentation in one surface. These components are often supplied separately to the damper.

(c) Molecular Pumps: Especially designed or prepared cylinders having internally machined or extruded helical grooves and internally machined bores. Typical dimensions are as follows: 7mm (0.3 ins.) to 400mm (16 ins.) internal diameter, 10mm (0.4 ins.) or more wall thickness, 1 to 1 length to diameter ratio. The grooves are typically rectangular in cross-section and 2mm (0.08 in.) or more in depth.

(d) Motor Stators: Especially designed or prepared ring shaped stators for high speed multi-phase AC hysteresis (or reluctance) motors for synchronous operation within a vacuum in the frequency range of 600–2000 Hz and a power range of 50–100 volts amps. The stators consist of multi-phase windings on a laminated low loss iron core comprised of thin layers typically 2.0mm (0.08 in.) thick or less.

2. *Especially designed or prepared auxiliary systems, equipment and components for gas centrifuge enrichment plants.*

Note.—The auxiliary systems, equipment and components for a gas centrifuge enrichment plant are the systems of the plant needed to feed UF_6 to the centrifuges to link the individual centrifuges to each other to form cascades (or stages) to allow for progressively higher enrichments and to extract the product and tails of UF_6 from the centrifuges, together with the equipment required to drive the centrifuges or to control the plant.

Normally UF_6 is evaporated from the solid using heated autoclaves and is distributed in gaseous form to the centrifuges by way of cascade header pipework. The "product" and "tails" of UF_6 gaseous streams flowing from the centrifuges are also passed by way of cascade header pipework to cold traps (operating at about −70 °C where they are condensed prior to onward transfer into suitable containers for transportation or storage. Because an enrichment plant consists of many thousands of centrifuges arranged in cascades, there are many kilometers of cascade header pipework incorporating thousands of welds with a substantial amount of repetition of layout. The equipment, component and piping systems are fabricated to very high vacuum and cleanliness standards.

The following items either come into direct contact with UF_6 process gas or directly control the centrifuge and the passage of the gas from centrifuge to centrifuge and cascade to cascade.

(a) Feed Systems/Product and Tails Withdrawal Systems:

Especially designed or prepared process systems including:

1. Feed autoclaves (or stations), used for passing UF_6 to the centrifuge cascades at up to 100 Kg/m^2 (15 $lb/in.^2$)

2. Desublimers (or cold traps) used to remove UF_6 from the cascades up to 3 Kg/m^2 (0.5 lb/in^2) pressure. The desublimers are capable of being chilled to −70 °C and heated to 70 °C.

49 FR 47191

3. Product and tails stations used for trapping UF_6 into containers.

This plant equipment and pipework are wholly made of or lined with UF_6 resistant materials (see Footnote to this Section) and are fabricated to very high vacuum and cleanliness standards.

(b) Machine Header Piping Systems:

Especially designed or prepared piping systems and header systems for handling UF_6 within the centrifuge cascades.

This piping network is normally of the "triple" header system with each centrifuge connected to each of the headers. There is thus a substantial amount of repetition in its form. It is wholly made of UF_6 resistant materials (see Note to this Section) and is fabricated to very high vacuum and cleanliness standards.

(c) UF_6 Mass Spectrometers/Ion Sources: Especially designed or prepared magnetic or quadrapole mass spectrometers capable of taking "on-line" sample of feed, product or tails from UF_6 gas streams and having all of the following characteristics:

1. Unit resolution for mass greater than 320.

2. Ion sources constructed of or lined with nichrome, monel or nickel-plate.

3. Electron bombardment ionization sources.

4. Having a collector system suitable for isotope analysis.

(d) Frequency Changers: Frequency changers (also known as converters or invertors) especially designed or prepared to supply motor stators as defined under Section 1.2(d), or parts, components and subassemblies of such frequency changers having all of the following characteristics:

1. A multiphase output of 600 Hz to 2000Hz.

2. High stability (with frequency control better than 0.1%).

3. Low harmonic distortion (less than 2%).

4. An efficiency of greater than 80%.

49 FR 47191

Footnote

Materials resistant to corrosion by UF_6 include stainless steel, aluminum, aluminum alloys, nickel or alloys containing 60% or more nickel.

49 FR 47191

Appendix B—Categorization of nuclear material

Material	Form	Category		
		I	II	III[e]
1. Plutonium[a]	Unirradiated[b]	2 kg or more	Less than 2 kg but more than 500 g.	500 g or less.
2. Uranium-235[c]	Unirradiated:[b]			
	Uranium enriched to 20 pct U^{235} or more	5 kg or more	Less than 5 kg but more than 1 kg.	1 kg or less.
	Uranium enriched to 10 pct U^{235} but less than 20 pct.		10 kg or more	Less than 10 kg.
	Uranium enriched above natural, but less than 10 pct U^{235}.			10 kg or more.
3. Uranium-233	Unirradiated[b]	2 kg or more	Less than 2 kg but more than 500 g.	500 g or less.

[a] All plutonium except that with isotopic concentration exceeding 80 pct in plutonium-238.

[b] Material not irradiated in a reactor or material irradiated in a reactor but with a radiation level equal to or less than 100 rd/h at 1 m unshielded.

[c] Natural uranium, depleted uranium, thorium and quantities of uranium enriched to less than 10% not falling into Category III should be protected in accordance with prudent management practice.

[d] Irradiated fuel should be protected as category I, II, or III nuclear material depending on the category of the fresh fuel. However, fuel which by virtue of its original fissile material content is included as category I or II before irradiation should only be reduced one category level, while the radiation level from the fuel exceeds 100 rd/h at 1 m unshielded.

[e] Physical security determinations will not be required for 15 g or less of plutonium, uranium-233 or high-enriched uranium, or for 1 kg or less of uranium with an enrichment between 10 and 20 pct in uranium-235.

Appendix C [deleted] 49 FR 47191

UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS – ENERGY

PART 110

EXPORT AND IMPORT OF NUCLEAR FACILITIES AND MATERIALS

STATEMENTS OF CONSIDERATION

43 FR 6915
Published 2/17/78
Effective 3/3/78

Title 10—Energy

CHAPTER I—NUCLEAR REGULATORY COMMISSION

EXPORT AND IMPORT OF NUCLEAR FACILITIES AND MATERIALS

Export and Import of Nuclear Facilities and Materials

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations by adding a new part providing for standards, procedures and rules of practice for licensing the export and import of utilization facilities, source, byproduct and special nuclear materials. Conforming changes are also made to other parts of the Commission's regulations relating to export and import matters. The new part, designed to codify in one place export and import regulations, deals principally with the standards for grant or denial of license applications; the information required to be submitted in license applications; the general procedures followed for Commission review and for obtaining Executive Branch views on license applications; public notification of applications; the conduct and format of public procedures on export and import license applications; and enforcement actions and rulemaking relating to exports and imports.

EFFECTIVE DATE: May 3, 1978.

NOTE.—The Nuclear Regulatory Commission has submitted this rule to the Comptroller General for such reviews as may be appropriate under the Federal Reports Act, as amended, 44 U.S.C. 3512. The date on which the reporting requirement of this rule becomes effective, unless advised to the contrary, accordingly reflects inclusion of the 45-day period which that statute allows for such review (44 U.S.C. 3512(c)(2).)

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION: On June 30, 1977, in 42 FR 33317, the Commission published for comment a proposed new part 110 to CFR entitled "Export and Import of Nuclear Facilities and Materials", with conforming changes made to other parts of the Commission's rules.

Under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended, the Nuclear Regulatory Commission (Commission) is responsible for licensing the export and import of nuclear utilization facilities (nuclear Reactors), and source, byproduct and special nuclear materials.

During its first year as an independent regulatory agency, the Commission, in conjunction with the Executive Branch, developed procedures for obtaining the unified view of Executive Branch agencies on pending export and import license applications. These procedures were made formal for the Executive Branch in early 1976 by issuance of Executive Order 11902. Also, beginning in January of 1976 the Commission undertook a comprehensive examination of its export and import licensing provisions. This rule is a result of this study and the comments received on the proposed rule.

The Commission, Executive Branch, and Congress are examining the substantive standards and criteria for granting or denying export license applications to be added to Part 110. Any changes to the substantive standards and criteria set forth in these regulations will be the subject of a separate rulemaking and FEDERAL REGISTER notice.

SUMMARY OF REGULATIONS

The export and import regulations are set forth in a new Part 110 entitled "Export and Import of Nuclear Facilities and Materials". Conforming changes are made to other parts of the Commission's rules.

The basic purposes of the new Part 110 are twofold: first, to reflect in its procedures the basic differences between the Commission's export and import licensing functions and its domestic licensing functions; and second, to consolidate the Commission's export and import licensing provisions, presently scattered throughout the Commission's regulations, into one part for the convenience of the public.

Briefly, the new Part 110 includes:

(1) Required contents of export and import license applications;

(2) Procedures for Commission review of export and import license applications;

(3) Exemptions from licensing requirements and grants of general licenses for exports and imports;

(4) Substantive standards for grant or denial of export and import license applications;

(5) The Commission's relationship to Executive Branch agencies in nuclear export and import matters;

(6) Provisions for public notification of the receipt of export and import license applications;

(7) Procedures for public participation in the Commission's export and import licensing review process, including provisions for granting or denying requests for hearings and petitions for leave to intervene, and provisions for the hearings themselves.

(8) Provisions regarding access to, and introduction of, classified information in hearings;

(9) Procedures for rulemaking on nuclear export and import matters;

(10) Recordkeeping requirements for export and import licensees; and

(11) Enforcement actions concerning export and import licenses.

Most of the substantive provisions have been developed (with some revision and updating) from other parts of the Commission's regulations on nuclear exports and imports in 10 CFR Parts 30, 31, 32, 33, 36, 40, 50 and 70. However, the provisions in the new Part 110 regarding public participation in the Commission's nuclear export and import licensing review process differ from the procedures used in the Commission's domestic licensing review process and deserve further explanation.

PUBLIC PARTICIPATION IN EXPORT AND IMPORT LICENSING

On March 2, 1976, the Commission received, for the first time in its history or the history of its predecessor, the Atomic Energy Commission (AEC), a petition for leave to intervene and request for a hearing on an export license application. The Commission held that the petitioners lacked standing to intervene in the case, but decided as a matter of discretion that the conduct of a legislative-type hearing would be in the public interest. *Edlow International Company* (Tarapur), 3 NRC 563 at 568 and 580 (1976).

The Commission adopted procedures which afforded the petitioners in that proceeding an opportunity to make their views known in a manner and under a procedural format compatible with the orderly conduct of the licensing process and the nature of the issues involved in the matter, including sensitive foreign relations and national security considerations. Id., at 568, 580, 590-591. The procedural aspects of the Commission's decision in *Edlow* are presently under judicial review by the U.S. Court of Appeals for the D.C. Circuit.

In a subsequent opinion on another export license application, the Commission discussed its export licensing procedures, the sensitive and policy-oriented character of the issues involved, and the Commission's treatment of these matters. *Westinghouse Electric Corporation* (ASCO II), 3 NRC 739 (1976).

The Commission is authorized by the Atomic Energy Act to issue a license for a particular export or import only after determining that issuance would not be inimical to the common defense and security of the United States, or the health and safety of the United States public, and (in the case of nuclear facilities and certain nuclear materials) after determining that the export would be within the scope of, and consistent with, an agreement for cooperation in the civil uses of atomic energy between the United States and another nation or group of nations.

Pursuant to section 123 of the Atomic Energy Act, agreements for cooperation become effective only after: (1) They are approved and authorized by the President of the United States, who is required to make a determination in writing that "the performance of the proposed agreement will promote and will not constitute an unreasonable risk to the common defense and security"; and (2) they have been submitted to Congress for review under a special statutory arrangement.

The statutory finding which the Commission makes before issuing an export or import license often requires consideration of highly sensitive foreign policy and national security matters, some of which may have an impact well beyond the specific nuclear export or import being considered. For example, the Commission examines, among other matters, the safeguards and assurances provided by the recipient government to ensure that U.S.-supplied facilities and materials are not diverted to unauthorized uses, and the relationship of the Commission's grant or denial of an export license application to overall U.S. policies on the proliferation of nuclear explosives. In contrast, domestic licensing usually involves factual matters, relating to the domestic public health and safety and the environment, associated with discrete applications for the construction and operation of nuclear power plants. Moreover, the Commission's export and import licensing review process constitutes only one part of this country's broader activities in the nuclear import and export control area—activities which are part of United States foreig policy and nuclear nonproliferation efforts.

As the Commission has noted, the procedures applicable to domestic licensing are not in general well-suited to the Commission's conduct of its export and import licensing functions. See *Edlow International, supra.* In case of material covered by import licensing proceedings, if certain domestic health, safety, environmental and safeguards issues are raised, which are similar to issues commonly raised in domestic licensing proceedings, these issues may be properly addressed using domestic licensing procedures to the extent that they are separable from other issues associated with the license. Thus, persons or organizations establishing in an import licensing proceeding that they have an interest which may be affected, may be accorded additional procedural rights in the resolution of factual issues regarding protection of the U.S. public health, safety and environment.

The Commission has statutory discretion to formulate appropriate procedures for export and import licensing. Section 189a. of the Atomic Energy Act provides:

> In any proceeding under this Act, for the granting, suspending, revoking, or amending of any license or construction permit, or application to transfer control, and in any proceeding for the issuance or modification of rules and regulations dealing with the activities of licensees, * * * the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit such person as a party to such proceeding.

This language does not by its terms provide for an "on-the-record" hearing calling into play the formal adjudicatory requirements of sections 5, 7, and 8 of the Administrative Procedure Act, in each and every context in which a hearing is required. For example, such requirements do not apply where the Commission engages in rulemaking. *Siegel* v. *AEC*, 400 F. 2d 788 (D.C. Cir. 1968). What the language requires in each instance is to be settled by reference to congressional intent, established practice and sound policy.

It is clear from the legislative history of the provision, consistent agency practice, and indeed the general structure and conduct of government that formal adjudicatory procedures are required for controversies arising out of domestic licensing. Id. at 785. There is no similar indication concerning export or import licensing. During its 20-year administration of the Atomic Energy Act, the AEC did not once conduct a public or formal export or import licensing proceeding. The legislative history of the Energy Reorganization Act is equally devoid of any hint that Congress expected the Commission to follow formal adjudicatory procedures in export or import licensing.

Indeed, Congress' first explicit consideration of export procedures came in 1975, after enactment of the Energy Reorganization Act. Thus, neither congressional expectation nor established practice requires on-the-record adjudication of export or import licensing matters.

The absence of congressional concern over the informal nature of AEC export or import reviews is particularly significant in light of the unique relationship the *Siegel* court recognized between the Commission and the Congress, one designed to keep Congress fully and currently informed about this agency's views and actions. 400 F.2d at 783. See also *Union of Concerned Scientists* v. *AEC*, 499 F.2d 1069, 1079 (D.C. Cir. 1974). Congress was fully aware of the Commission's export and import licensing procedures, under the Commission's legal obligation to keep the Joint Committee on Atomic Energy "fully and currently informed with respect to all * * * (its) activites" including its export licensing practices. See section 202a. of the Atomic Energy Act.

The Commission's understanding of section 189 is also supported by more general considerations touching the nature of the issues, the practices of other federal agencies, and the appropriateness of adopting procedures other than adjudicatory hearings for nuclear export and import licensing.

As indicated before, the statutory finding which the Commission must make for an export or import, and the statutory context in which that finding is made, often require consideration of highly sensitive foreign policy and national security issues, including other countries' intentions and policies. An attempt to resolve these issues in the format of a formal adjudicatory hearing could seriously impair the conduct of United States foreign relations. It could appear to place on trial a foreign government's intentions on matters concerning its own vital national interests. These statutory findings are inherently policy decisions, committed to agency discretion, and singularly inappropriate for resolution in a formal adjudicatory context.

Finally, to the Commission's knowledge, no other agency holds adjudicatory hearings on such sensitive foreign policy issues.

Indeed, even if section 189 itself were to be construed to require formal adjudicatory procedures on all Commission licensing proceedings, Section 5 of the Administrative Procedure Act permits modification of those formal procedures where the conduct of foreign affairs functions is involved. Thus, regardless of the precise interpretation to be accorded the term "hearing" in section 189, a similar result obtains under Section 5 of the Administrative Procedure Act—formal adjudicatory procedures are not required and are inappropriate for Commission export and import licensing.

"It is part of the genius of the administrative process that its flexibility permits adoption of approaches subject to expeditious adjustment in the light of experience." *American Airlines, Inc. v. Civil Aeronautics Board*, 359 F.2d 624, 633 (D.C. Cir. 1966). The Commission has endeavored in the new Part 110 to provide for procedures that will facilitate effective public participation in export and import licensing—procedures that are designed to be fair and consistent with the nature of the issues involved. Also, the Commission has endeavored to provide a structure for public participation that is sufficiently comprehensive so as to eliminate or substantially decrease the need for time consuming case-by-case development of procedures for export and import license applications.

ELEMENTS OF PUBLIC PARTICIPATION ON EXPORT AND IMPORT LICENSING MATTERS

In brief, the New Part 110 establishes the following procedures for public participation in export and import licensing matters. First, public notices is given for all major export and import license applications by periodically publishing a list of those applications received in the FEDERAL REGISTER—the Commission intends to do this twice a month; by placing copies of all export and import license applications in the Commission's Public Document Room; and by periodically mailing a list of export and import license applications received to persons or organizations requesting such information.

Second, the new part explicitly provides for public participation through written comments to the Commission. The Commission encourages and will consider carefully any written comments received on pending export and import license applications.

Third, provision is made for both hearings consisting of written comments and oral hearings where the Commission believes these would be in the public interest and of assistance in making its export and certain import licensing determinations. In keeping with the nature of the issues, oral hearings will be modelled on those used by legislative bodies. At such hearings, participants may be questioned by the presiding office (ordinarily the presiding officer will be the Commission itself). Also, participants in the hearing may submit proposed questions to the presiding officer, to be addressed by others at the discretion of the presiding officer.

Finally, the Commission will give careful consideration to all relevant written comments received, and the record of any hearings, in making its decision. However, in reaching its decision, the Commission may draw on material not included in the hearing record and may consult with its staff, Executive Branch agencies and other persons.

COMMENTS.—Twenty-four letters of comment were received from a total of 23 persons, companies or organizations: 14 from the domestic nuclear industry; 1 law firm representing nuclear industry clients; 2 foreign industry groups; 2 public interest groups; 3 State government agencies; the Department of Commerce; and the Department of State. Copies of these comments have been placed in the Commission's Public Document Room at 1717 H Street NW., Washington, D.C. The commentors had both general and detailed remarks on the procedures and most offered detailed drafting changes to the proposed regulations. The general comments and their resolutions are as follows:

(1) Industry commentors basically suported the promulgation of consolidated export regulations at this time. However, one public interest commentor (representing several organizations) suggested the adoption of the regulations was inappropriate prior to enactment of comprehensive nonproliferation legislation pending before the 95th Congress. One industry commentor supported this view.

Part 110 was drafted with the nonproliferation legislation in mind and, if legislation is enacted, appropriate provisions will be integrated into the new regulations (for example, more detailed export licensing criteria under § 110.42). The Commission has endeavored to draft Part 110 in a manner consistent with the latest versions of proposed legislation, as well as Commission statements of its intention to develop comprehensive export/import regulations at an early date. The new part is warranted on its own merits.

(2) Industry comments also reflected support for adopting legislative hearings as the typical format for public participation in export licensing. A few thought the public participation regulations were too broad and were an invitation to abuse by groups having only a remote interest in the subject matter. Several companies urged a rule requiring a stronger showing of interest before permitting interventions in NRC export licensing proceedings. On the other hand, comments by some environmental and public interest groups objected to adoption of a legislative hearing format and urged that the regulations be amended to provide for adjudicatory hearings (including full party status for intervenors, formal discovery by interrogatory, subpoenas for witnesses, cross-examination, on-the-record decisions, and the right of public parties to initiate enforcement proceedings).

As previously detailed, the procedures applicable to domestic licensing are not in general well-suited to the Commission's conduct of its export and import licensing functions. On the other hand, the Commission does not feel that the public participation regulations adopted are too broad and sees no sound reason why a stronger showing interest should be required for intervention.

(3) Several commentors suggested various ways for the Commission to expedite the licensing review process. It was suggested that the Commission (1) act on an export license within a specified time, ranging from 90 days to 6 months following receipt of an application, (2) limit the review process for routine applications such as reactor fuel reloads, and (3) provide a preliminary export license commitment, such as an advisory opinion, similar in principle to that granted by the Eximbank and the Commerce Department.

In response to these comments, it should be noted that the Commission has been actively working with the executive branch to expedite the licensing review process. Section 110.40 sets a guideline period for processing applications and stipulates that, if the guideline period is not met, the applicant will be informed in writing of the reason and given appropriate follow-up reports. Routine export license applications for low-enriched fuel shipments subsequent to an initial coreload, such as those for a facility in a country adhering to the Nuclear Non-proliferation Treaty (NPT), will not ordinarily be referred to the Commissioners for review. Applications involving non-parties to the NPT, intervention petitions or requests for a hearing, or changed circumstances are considered non-routine.

The more detailed comments and responses are noted below. The proposed rule has been revised, as appropriate, in response to general comments suggesting simplification and clarification. This has been accomplished throughout the proposed rule without altering the substance.

CONFORMING CHANGES

(1) In response to a comment concerning §§ 30.41, 40.51, and 70.42, new subparagraphs (b)(6) are added to these sections to clarify that persons authorized to possess nuclear material are authorized to transfer the material to a person abroad pursuant to an export license issued under Part 110 of this chapter.

(2) Material identification requirements, previously implemented by import license conditions, have been incorporated into § 70.54

SUBPART A—GENERAL PROVISIONS

(3) § 110.1, "Purpose and scope", is simplified, clarified and expanded to note that certain Department of Defense and Department of Energy activities are excluded from coverage by statute.

(4) In response to several comments, definitions are added for "packaging" (§ 110.2(v)), "reexport" (§ 110.2(bb)), "transfer" (§ 110.2(ii)), and "transport" (§ 110.2(jj)). Also, definitions for "atomic energy" and "Restricted Data" are deleted as unnecessary, and other definitions are clarified.

The new definitions are designed, in part, to distinguish between "export", "import", and "transfer". A specific export or import license simply authorizes the licensee to arrange for a utilization facility or special, source or byproduct material to be conveyed out of or into the U.S. An export or import license does not authorize the licensee to possess the material. A supplier or receiver, the only person with actual physical possession is responsible under existing regulations for providing appropriate packaging and transportation. However, a licensee with a specific license to export or import special nuclear material is responsible for compliance with the physical protection requirements of Part 73, unless a domestic licensee (supplier or receiver) has assumed that responsibility and the Commission has been so notified. See § 110.50(b).

(5) In response to a comment, the definition for "Agreement State" in former § 110.2(c), new § 110.2(b), is changed to clarify that it applies only to "States" in the United States and not to foreign "states."

(6) One commentor suggested that "person" in § 110.2(y) is defined too broadly, in effect granting "standing" to anyone to file written comments, request a hearing or petition for leave to intervene. The definition is unchanged, since there is no direct correlation between "person" and "standing" in Part 110.

(7) One commentor suggested that any reference to "participants", (§ 110.2(x)), be changed to "parties" to give every participant in a hearing equal status and the right to seek judicial review. The definition is unchanged. In effect, the status of participants in a hearing will be equal, depending (1) on the degree of involvement in the hearing (e.g. providing written comments only) or (2) on the framework the Commission sets for any hearing (e.g. providing for an oral hearing). In addition, because legislative-type rather than adjudicatory-type hearings are provided for, the term "participant" rather than "party" seems more appropriate.

This commentor also suggested that all participants are entitled to seek judicial review under section 189b of the Atomic Energy Act. However, only a person who has established an interest that may be affected and is aggrieved (see Hobbs Act, 42 U.S.C. § 2341 et seq.) may seek judicial review.

(8) In response to several comments, § 110.5 is revised to clarify the requirements for a license. Former paragraph (c) is covered elsewhere in Part 110 and is deleted; and former paragraph (d) is deleted and incorporated into a new § 110.6, to clarify procedures for obtaining reexport approval.

SUBPART B—EXEMPTIONS

(9) Many commentors requested various new exemptions or general licenses in connection with Subparts B and C. Many of the proposals are believed to have merit and have been under Commission and executive branch review. These proposals will be addressed in a separate rulemaking proposal to be published in the near future in the FEDERAL REGISTER. Any regulations emerging from this rulemaking would be incorporated into Part 110

(10) In response to several comments, § 110.10 is clarified and also revised to make clear that exemptions granted by the Commission are subject to executive branch review and, where appropriate, public rulemaking proceedings. One commentor suggested an exemption from licensing requirements for Government-to-Government imports of special nuclear material. The staff is analyzing this suggestion and any proposed changes to this part resulting from the staff analysis will be subject to a separate rulemaking proposal.

(11) Former § 110.11, exempting the Department of Defense from export or import licensing to a certain extent, is deleted and incorporated into § 110.1, as noted in the first response.

(12) In response to a comment, former § 110.12, new § 110.11, is clarified to make it paralled to § 70.11 of this chapter.

(13) In response to a comment, former § 110.13 is deleted. The exemption dealing with carriers is subsumed under domestic transfer and licensing requirements.

(14) A new § 110.12 is added to incorporate a recent rulemaking on intergovernmental cooperative activities (see former § 70.15 of this chapter).

SUBPART C—GENERAL LICENSES

(15) In keeping with the comments and revisions in § 110.10, a new § 110.20 is added to explain the authority and requirements for issuance of general licenses, including provision for executive branch review and rulemaking proceedings.

(16) One comment proposed shipment limitations for former §§ 110.20(f), 110.20(g), and 110.21(e) (new §§ 110.21(f), 110.21(g), and 110.22(e)). The suggested limitations have not been adopted in view of the inherently nonsensitive nature of the byproduct and source material under these general licenses. However, in response to another comment, former § 110.21(a), new § 110.22(a), is revised to limit the total amount of source material that a person can export annually to any country.

(17) In response to a comment on former § 110.23, this section is deleted, since information on generally licensed exports can be obtained from U.S. Customs and because there requirements have been difficult to administer.

(18) Several commentors requested that the general license for import, § 110.25, be modified to exclude imports of nuclear waste for disposal. This proposal would require a substantive change to existing regulations. The staff is analyzing this matter and any proposed change will be subject to a separate rulemaking proposal.

SUBPART D—APPLICATIONS FOR SPECIFIC LICENSES

(19) In response to a comment, references to application forms are added to § 110.30.

(20) In response to several comments on § 110.31, former paragraph (a)(3), new paragraph (a)(2), is clarified and former paragraph (a)(9) is deleted since this is covered in § 110.33.

The other comments on this section and their resolution are as follows:

A. One commentor also requested that the requirement for an end-use statement be deleted. This information is essential to licensing review, and the requirement is unchanged.

B. Another commentor requested that the principal initiating a license application (often a foreign government or corporation) should be identified. This is unnecessary if the license applicant, supplier and the receiver are clearly identified.

C. Finally, one commentor suggested that reprocessing and spent-fuel storage plans of the recipient should be included in export license applications. Information on U.S. controls over the reprocessing of U.S. supplied material and on related spent fuel storage considerations is available from governmental sources and considered, as appropriate, in export license reviews. It is unnecessary and inappropriate to request the license applicant to provide such information.

(21) In response to several comments, § 110.32 is clarified so that "items" in paragraph (b) refers to individual shipments and so that paragraph (c) explains why a list is required.

One commentor suggested that jurisdictional lines between the Commission and the Department of Commerce be clarified. Licensing practice indicates that this clarification is unnecessary. Changes resulting from enactment of pending nonproliferation legislation would be incorporated into future amendments to Part 110.

(22) In response to several comments, § 110.33 is clarified and revised by requiring contract numbers only, if known, in paragraph (a); by deleting former paragraph (c), since shipping and packaging requirements are covered by the Commission's domestic licensing regulations; by adding a new paragraph (e), to identify the country of origin for source and special nuclear material in order to meet international standards; and by deleting former paragraph (f), since the information it requested is often proprietary or classified and is more appropriately obtained government-to-government.

(22) In response to several comments, § 110.34 is clarified and revised by requiring the name of the supplier instead of the owner in new paragraph (c), former paragraph (a)(4); by deleting former paragraph (a)(10), since these requirements are covered by the Commission's domestic licensing regulations; and by clarifying former paragraph (a)(11), new paragraph (i).

(23) In response to a comment, § 110.35 is revised to apply to applicants only.

SUBPART E—REVIEW OF SPECIFIC LICENSE APPLICATIONS

(24) In response to a comment, former § 110.36 is combined with new § 110.53 to further clarify that any person applying for an export or import license must have a U.S. address through which the Commission can take enforcement action or inspect his records, premises and activities related to the export or import shipment.

(25) In response to several comments, § 110.41 is revised by deleting former paragraph (a)(3) as redundant; and by deleting former paragraph (b), since the requirement to forward to the Executive Branch those import license applications involving material for subsequent export is unnecessary in view of the fact that subsequent export will be subject to Executive Branch and Commission review.

The other comments and their resolution are as follows:

A. One commentor suggested that, in situations involving the import of material for subsequent export, the Commission should issue a combined import/export license. This suggestion is not adopted, since applicants may apply simultaneously for import and export licenses, if they wish such matters to be considered concurrently.

B. One commentor suggested that the Commission require the Executive Branch to prepare a nonproliferation assessment, including a timely warning analysis, on each export license application. This is considered unnecessary, since proliferation aspects of each export are already considered in the Executive Branch and Commission review of proposed exports as part of the normal licensing review.

C. Finally, one commentor suggested that the Commission's regulations should set standards governing the quality of Executive Branch analysis. This is unnecessary. The Commission has established procedures for obtaining information from the Executive Branch, its staff and others, and does not make its export licensing determinations until it has received adequate information.

(26) § 110.42 adopts as final an interim rule proposed in 42 FR 43821 (August 31, 1977). See § 70.31(e) of this chapter. In response to a comment received on the interim rule, the final rule requires that the quantity of exempted diluted material may not exceed 100 grams. It should be noted that § 110.42, and the Atomic Energy Act itself, do not require that source material exports be pursuant to an agreement for cooperation. Nevertheless, the Commission will normally require that source material exports for nuclear end-uses be pursuant to an agreement for cooperation in order to satisfy the "noninimicality" determination requirement.

SUBPART F—LICENSE TERMS AND RELATED PROVISIONS

(27) There were numerous comments on § 110.50. This section is revised by:

A. Simplifying paragraphs (a)(1) and (a)(2); deleting former paragraph (a)(3), since it is redundant; clarifying paragraph (a)(4) and renumbering it (b)(9); and deleting former paragraphs (a)(5) and (a)(6), since shipping requirements are covered by the Commission's domestic regulations;

B. Clarifying former paragraph (b)(1) and renumbering it (b)(2); adding a new paragraph (b)(1) to provide for license expiration dates; deleting former paragraph (b)(2), because the Commission has other means to verify the information contained in Shipper's Export Declarations; and adding a new paragraph (b)(5) to indicate the licensee's responsibility with respect to the packaging requirements of Part 71;

C. Renumbering paragraphs (c)(1) and (c)(2) as (b)(8) and (b)(7), respectively;

D. Revising former paragraph (d)(1) to cover packaging and fuel element hardware and renumbering it (a)(5); deleting paragraphs (d)(2) and (d)(3), since reporting and shipping requirements are covered by the Commission's domestic regulations; incorporating former paragraph (d)(4) into new paragraph (a)(3); renumbering paragraph (d)(5) as (b)(6) and revising it to make clear that the export licensee is responsible for compliance with the physical protection requirements in Part 73, unless a domestic licensee of the Commission has assumed that responsibility and the Commission has been so notified; and deleting paragraph (d)(6), since this provision is covered by the Commission's domestic regulations.

E. Deleting paragraphs (e)(1) and (e)(3) through (e)(7), since these requirements are covered by the Commission's domestic regulations; and deleting paragraph (e)(2) and providing for appropriate coverage in a conforming change to Part 73.

(28) A commentor suggested that the Commission revise § 110.51 to require the Commission to provide the licensee notice that his license is about to expire. This suggestion is not adopted because it would impose an unwarranted administrative burden on the Commission. A licensee is fairly chargeable with a duty to review his legal authority to engage in a licensed activity and to take whatever action is required to maintain that authority.

(29) In response to a comment, § 110.54 is deleted, since reporting requirements are adequately covered by the Commission's domestic regulations. This deletion obviates the need to respond to other comments on § 110.54.

(30) In response to a comment, former § 110.55, now incorporated into § 110.53, is revised to clarify the Commission's statutory authority and the coverage of the Commission's inspections.

SUBPART G—VIOLATIONS AND ENFORCEMENT

(31) In response to several comments, §§ 110.60, 110.61, 110.62, 110.63, 110.64 and 110.65 are clarified and simplified. One commentor requested that paragraphs (e) and (f) of § 110.64 be deleted on grounds that section 234 of the Atomic Energy Act does not authorize hearings in connection with civil penalties. Such hearings are authorized by the Atomic Energy Act (see 10 CFR § 2.205) and the request is therefore not adopted. However, these paragraphs are clarified to indicate that any alleged violator does not need to seek an administrative hearing.

SUBPART H—PUBLIC NOTIFICATION AND AVAILABILITY OF DOCUMENTS AND RECORDS

(32) Section 110.70 is clarified and divided into 4 sections in response to several comments suggesting that it was unclear.

The other comments and their resolution are as follows:

A. The Commission is adopting a suggestion that it publish in the FEDERAL REGISTER notice of receipt of applications other than those for utilization facilities. The Commission will also notice in the Federal Register receipt of applications for 1 effective kilogram or more of special nuclear material and 10,000 kilograms or more of source material. Thus, major applications will be noticed in the Federal Register. The Commission believes, however, that publication in the Federal Register has only marginal value as a means of providing actual notice of applications in minor cases and will continue to notice these by placement in the Commission's Public Document Room.

B. In response to a comment, former paragraph (a)(3) is deleted. It should be noted that, in § 110.80 of Part 110, the Commission encourages written comments from the public. In order to afford the Commission an opportunity to focus on public views and concerns, it requests that, if possible, the comments should be submitted within 30 days after notice of receipt of an application.

C. Finally, in response to a comment, the Commission believes it unnecessary to provide notice to the applicant that his application was received, since this can be verified by telephone.

(33) In response to several comments, former § 110.71, new § 110.73, is clarified and a new paragraph (b) is added to specify that the provisions of §§ 2.790 (b), (c) and (d) of this chapter also may be applied to proprietary information.

SUBPART I—PUBLIC PARTICIPATION PROCEDURES CONCERNING LICENSE APPLICATIONS

(34) In response to several comments, § 110.80 is clarified and provision made for the Commission to provide an applicant with a copy of any comments received and, as appropriate, a reasonable opportunity to respond. It should be noted that the written comment procedure in this section is separate from the procedure for a hearing consisting of written comments.

(35) In response to several comments, § 110.81 is clarified, revised and incorporated into other sections as appropriate.

In response to a comment, the Commission does not consider it necessary to bolster the provisions on untimely intervention petitions or hearing requests and on the documentation and information required from a petitioner or requestor.

In keeping with Commission acceptance of the comment that it should act expeditiously on export license applications, former § 110.81(b), new § 110.81(c), is revised to allow 15 days after public notice of receipt of the application in the Public Document Room for the filing of hearing requests or intervention petitions on minor export or import license applications. As stated before, for major applications published in the Federal Register, hearing requests and intervention petitions will be considered timely only if filed not later than 30 days after notice of receipt in the Federal Register.

(36) In response to comments, § 110.82 is revised by providing equal time limits for filing answers, adding a new provision covering replies, and making these consistent with § 110.81.

(37) In response to several comments, § 110.83 is revised by:

A. Changing paragraph (b)(1) to make clear that a key factor the Commission will consider in acting on an intervention petition or hearing request is the impact of a hearing on the common defense and security of the United States (the Commission has not adopted other suggested criteria, since it believes that the present criteria as revised are adequate);

B. Adding a new paragraph (f) specifying that, where a hearing request or intervention petition does not establish an interest which may be affected, the Commission will not conduct a new hearing on an issue adequately explored in another hearing, unless it determines that changed circumstances or new information warrant a new hearing. If the Commission determines that a hearing request or intervention petition does establish an interest which may be affected, it will grant a hearing and structure it to take account of information on the same issue received in any previous hearing; and

C. Specifying in new paragraph (g) that upon the affirmative vote of two Commissioners a hearing will be ordered.

(38) In response to a comment on §§ 110.84 and 110.85, the distinction between the procedures for oral hearings and hearings consisting of written comments is clarified.

(39) Several commentors stated that the order of the sections in Subpart I, "Public Participation Procedures Concerning License Applications" and Subpart J, "Hearings and Decisions" was unclear. For the most part, Subpart I concerns public participation procedures prior to hearings and Subpart J concerns procedures during hearings. To make the distinction clearer, the two subparts are retitled; former § 110.86 is incorporated into §§ 110.84 and 110.85; former § 110.87 is retitled and renumbered § 110.86; former §§ 110.90, 110.92, 110.93 and 110.95 are deleted from Subpart I, placed in Subpart J and renumbered §§ 110.101, 110.102, 110.103 and 110.105(a)(7) respectively; and §§ 110.94, 110.96, 110.97 and 110.110(c) are renumbered §§ 110.89, 110.88, 110.87 and 110.90, respectively.

SUBPART J—HEARINGS

(40) In response to comments, former § 110.93(d), new § 110.103(d), is revised by deleting the requirement for filing 20 conformed copies; and former § 110.94 (b) and (c), new § 110.89 (b) and (c), is revised by decreasing the time periods to correspond with standard requirements in domestic licensing proceedings.

(41) The comment that the Commission permit interrogatories is not accepted, since, as noted earlier, hearings have a legislative rather than an adjudicatory format. Instead, former § 110.104, new § 110.106, is revised to make clear that participants may address written or oral questions to the Commission or other presiding officer who may refer them to other participants for response.

Although several commentors suggested deletion of former § 110.104(c), new § 110.106(c), concerning import licensing hearings, the Commission is retaining it, as clarified, since it provides an option for according additional procedural rights in certain cases.

(42) In response to several comments, former § 110.105, new § 110.107, is revised by deleting the requirement in paragraph (a) for advance filing of rebuttal testimony; by relettering former paragraph (b) as new paragraph (f); and by inserting new paragraphs (c) and (d) permitting members of groups to testify in their individual capacities and participants to present their own witnesses.

The suggestion that the Commission grant subpoenas at the request of a participant is not adopted. Although the Commission is authorized to issue subpoenas on its own motion (see section 161c. of the Atomic Energy Act), the grant of subpoenas on request would be inconsistent with the legislative format established by these regulations for hearings.

(43) In response to several comments, former § 110.107, new § 110.109, is revised by changing paragraph (a) to require that, when the Commission is not the presiding officer, all motions must be filed initially with the presiding officer and all written motions served on the participants; and by changing the time limit in paragraph (b) to conform with standard practices in domestic licensing.

(44) In response to several comments, former § 110.110, new § 110.113, is revised by changing paragraph (a) to provide for a written Commission opinion after a hearing; by transferring former paragraph (c) to Subpart I and making it new § 110.90; and by making clear in new paragraph (d) that the Commission may act at any time on a license application when the requirements in that paragraph are met.

SUBPART K—SPECIAL PROCEDURES FOR CLASSIFIED INFORMATION IN HEARINGS

(45) One commentor suggested that Subpart K limited the flow of classi-

fied information between the Executive Branch and the Commission. The Commission believes that neither the filing of a hearing request or intervention petition nor the granting of these should imply any limit on the flow of classified information, and this subpart has been revised accordingly. Section 110.120 is also clarified to indicate that, whether or not a hearing is conducted, classified information should be declassified to the maximum extent feasible, and, to the extent consistent with classification requirements, public statements by the Executive Branch will reflect consideration of any classified information. This is reaffirmed in § 110.125, incorporating former § 110.121.

(46) In response to a comment, former § 110.122, new § 110.121, is revised by clarifying procedures for obtaining access to classified information. The distinction between access to classified information introduced and not introduced into a hearing is retained.

(47) In response to a comment, former § 110.124, new § 110.123, is revised by clarifying that, when a participant does not intend to introduce classified information into a hearing, a notice of intent should not be filed.

(48) In response to a comment, former § 110.125, new § 110.123(a), is revised by clarifying that a hearing participant must file a notice of intent to introduce classified information at the earliest possible time after the hearing notice.

(49) One commentor questioned the need for paragraphs (b) and (c) of former § 110.126, new § 110.125 (b)(2) and (b)(3), and recommended deletion. These paragraphs are clarified but remain essentially unchanged. They simply note that all participants should attempt to ensure that any classified information introduced in a hearing is, to the extent consistent with classification requirements, declassified and reflected in the public hearing record.

(50) In response to a comment, § 110.127 is deleted as unnecessary. The Commission will, in any event, give appropriate weight to any classified information, whether or not it is introduced into a hearing.

SUBPART L—RULEMAKING CONCERNING THE REGULATIONS IN THIS PART

(51) Subpart L has been clarified to make it consistent with the changes to other subparts.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following new Part 110, together with conforming changes, to Title 10, Chapter I, Code of Federal Regulations, is published as a document subject to codification.

43 FR 21641
Published 5/19/78
Effective 5/19/78
Comment period expires 7/8/78

PART 110—EXPORT AND IMPORT OF NUCLEAR EQUIPMENT AND MATERIAL

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: Pursuant to the Nuclear Non-Proliferation Act of 1978 (NNPA), the Nuclear Regulatory Commission (NRC) has amended its export/import regulations (10 CFR Part 110). The amended regulations incorporate the new export criteria mandated by the NNPA to govern exports of nuclear facilities, source material and special nuclear material for peaceful nuclear uses. Consistent with the NNPA, the amended regulations would also provide for NRC export control authority over nuclear facility components and other nuclear items and substances having possible significance for nuclear explosive uses. Because the NNPA requires the Commission to promulgate regulations within a short time frame, the amendments are being made effective immediately. However, the Commission is soliciting public comments with a view to further amending Part 110 to incorporate public views if warranted.

DATES: Effective date: May 19, 1978. Comments should be submitted by July 8, 1978.

ADDRESSES: Send comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Copies of comments received may be examined at the Commission's Public Document Room at 1717 H Street NW., Washington, D.C.

FOR FURTHER INFORMATION CONTACT:

Joanna M. Becker, Esq., Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone 492-7630, or Marvin R. Peterson, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone 492-8155.

SUPPLEMENTARY INFORMATION: On February 17, 1978, NRC published at 43 FR 6915 a new Part 110 to Chapter 1, Title 10 of the Code of Federal Regulations, entitled "Export and Import of Nuclear Facilities and Materials." This part, which became effective on May 3, 1978, codified in one place NRC's export and import regulations and contained special provisions for public participation in NRC's export and import licensing review process. Part 110 did not contain any major substantive revisions to the standards and procedures for granting or denying export license applications, since these areas were still undergoing consideration by the Congress, the Executive Branch, and NRC.

On March 10, 1978, the President signed the Nuclear Non-Proliferation Act of 1978 (NNPA), which specifically addresses export licensing procedures and criteria. The NNPA directs NRC to promulgate revised export control regulations incorporating the major portion of the Act's requirements by July 7, 1978, and new regulations covering physical security standards by May 9, 1978. NRC has chosen to promulgate both portions of its amended regulations simultaneously.

Although many sections of Part 110 are unchanged by the new amendments, both substantive and format changes are made in various parts of Part 110. It is therefore being republished in its entirety for the convenience of the public.

SUMMARY OF REGULATIONS

The major changes to Part 110 are summarized below in the order in which they appear:

1. § 110.1. The scope of Part 110 has been expanded to cover the additional material and equipment transferred to NRC's export control authority from the Department of Commerce pursuant to section 109 of the Atomic Energy Act and also to give NRC authority to license exports of the Department of Energy upon application by that Department. A new Appendix A has been added to provide the public with a detailed list of all equipment and material under NRC's export and import control authority. The statutory criterion for selecting "components," "items" and "substances" referenced in amended section 109 of the Atomic Energy Act for Commission licensing is that of "especially relevant from the standpoint of export control because of their significance for nuclear explosive purposes." The components, items and substances chosen are essentially those on the Nuclear Suppliers' Group and IAEA Zangger Committee trigger lists, thus reflecting an international consensus on items considered to be significant for nuclear explosive uses. To avoid problems associated with dual licensing authorities, agreement has also been reached with the Commerce Department that all specially designed components for nuclear reactors will be transferred to NRC's export control authority. This will enable exporters to apply to one agency for all proposed exports of nuclear reactor components.

2. § 110.2. New definitions have been added for deuterium, high and low-enriched uranium, nuclear equipment, nuclear-grade graphite, nuclear material, physical security and production facility. The "utilization facility" definition has been changed so that "utilization facility" now means either a complete nuclear reactor, a reactor pressure vessel, a primary coolant pump, a control rod or a nuclear fuel charging or discharging machine. These definition changes are primarily related to NRC's expanded export licensing authority. The new definition of "utilization facility" has the effect of bringing within that definition certain components "especially designed" for a utilization facility as permitted by section 11 cc of the Atomic Energy Act. The components chosen are deemed to be especially critical for the functioning of a utilization facility.

3. § 110.6. This section has been retitled "Retransfers" to conform with the language in the NNPA.

4. § 110.11. The exemption in § 110.11 for Department of Energy prime contractors has been deleted, as further review indicated no need for its inclusion. It has been replaced by a new exemption for imports of nuclear equipment, source material and byproduct material by licensees authorized to possess such equipment or material under another exemption or a specific or general license issued by the Commission or an Agreement State. Except for nuclear equipment, the

import license exemptions were previously covered by the general license in § 110.25.

5. § 110.25 and § 110.26. These sections provide new general licenses for exports of small quantities of deuterium (including heavy water) and nuclear grade graphite.

6. Subpart E. This Subpart has been extensively revised and expanded to incorporate the new export criteria mandated by the NNPA and the related procedures pertaining to the review of export license applications. The new export criteria are listed in § 110.42.

Section 110.43 sets out the physical security standards, amplifying the new physical security criterion in § 110.42(a)(3). The physical security standard which will be used in acting upon applications for licenses to export facilities, special nuclear material and source material is specified as, at a minimum, protection comparable to that set forth in International Atomic Energy Agency publication INFCIRC/225, Rev. 1. The measures recommended in that publication are international guidelines to which the United States subscribes, whose use is permitted by section 304(d) of the Nuclear Non-Proliferation Act of 1978. In the Commission's judgment such levels of physical security will provide adequate protection for the facilities and materials to which they must be applied as provided by section 127(3) of the Atomic Energy Act.

The Commission notes that, in evaluating whether the physical security program established by the recipient country meets the physical security standards of § 110.43, the staff will consider for Category I materials (see Appendix C to Part 110) the following essential elements, or their equivalent:

(i) Storage of materials in areas which provide penetration resistance and delay;

(ii) Protection of processing and storage areas with intrusion alarm system;

(iii) 24-hour armed security force (or an unarmed security force if a national or regional emergency plan has been established that will ensure immediate wide scale alert and response by armed policy or other government agencies);

(iv) Armed offsite forces capable of response;

(v) Independent duplicated transmission system for two-way voice communication;

(vi) Procedures to control access to and to provide continuing surveillance in material storage and processing areas;

(vii) Protection of transport by escorts or guards to be armed if armed emergency teams are not available for timely response to prevent attempted theft and facilitate recovery;

(viii) Transport in vehicles equipped with communications capable of calling for assistance from the local police or emergency team;

(ix) A program for determining trustworthiness of guards and individuals who have access to nuclear materials.

The Commission also notes that the staff will consider any potential threats to nuclear activities within the recipient country.

Section 110.44 sets out the basic statutory findings NRC must make before issuing an export or import license and provides for referral of export license applications to the President if NRC is unable to make the requisite findings.

7. § 110.51. This section has been revised to indicate that changes in the value of nuclear equipment authorized for export do not require a license amendment.

8. § 110.80. This section provides that the procedures in Part 110 will constitute the sole basis for hearings on export license applications. Those procedures have not been substantially changed except for the addition of criteria to be used in determining whether to grant leave to intervene or hold a hearing in export licensing proceedings mandated by section 304(b) of the NNPA as follows:

(1) Whether intervention or a hearing would be in the public interest and

(2) Whether intervention or a hearing would assist the Commission in making the statutory determinations required by the Atomic Energy Act.

The Commission intends to develop a new general license for the export of nuclear equipment to approved nuclear facilities abroad. Section 110.21 has been reserved for such a general license, which would be the subject of a notice of proposed rule making to be published at a later date.

Other revisions of an editorial nature have been made to Part 110. Although revised Part 110 is effective immediately, the Commission and the Commerce Department have agreed that the transfer of export licensing responsibility for items currently licensed by the Commerce Department will take place July 8, which will permit a more orderly transfer of responsibilities and result in less disruption to licensee export activities. The items involved are those listed in Appendix A, paragraphs (a)(1) through (a)(9); paragraphs (b)(1) through (b)(7); paragraphs (c)(1) through (c)(6); and paragraphs (d), (e), (i), and (j). Applications for the export of the items covered by these paragraphs will be accepted by the Department of Commerce through July 7, 1978, after which license applications shall be submitted to NRC. Prospective applicants may obtain NRC export license application forms from the Assistant Director for Export/Import and International Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Because the NNPA mandates that the amendments required by that Act be promulgated within a time period that does not permit publication of a notice of proposed rule making and public procedure thereon, the Commission has found that such notice and public procedure are impracticable and that good cause exists for making revised Part 110 effective without the customary 30-day notice. The Commission invites all interested persons who desire to submit written comments or suggestions for consideration in connection with revised Part 110 to send them to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Comments should be submitted by July 8, 1978. Copies of comments received may be examined at the Commission's Public Document Room at 1717 H Street NW., Washington, D.C. Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 as amended, the Nuclear Non-Proliferation Act of 1978 and Sections 552 and 553 of Title 5 of the United States Code, the revised Part 110 of Title 10, Chapter 1, Code of Federal Regulations is published as a document subject to codification.

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45 FR 11114
Published 2/20/80
Effective 2/20/80

10 CFR Part 110

Commission Review of Export License Applications

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission has revised its regulations to narrow those classes of export applications which will require Commissioner review. The Commission has determined that certain classes of nuclear export license applications do not raise issues which require review by the Commission.

EFFECTIVE DATE: February 20, 1980.

FOR FURTHER INFORMATION CONTACT: James B. Devine, Office of Policy Evaluation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (202–634–3302.)

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission has reviewed its processing of nuclear export license applications under the Atomic Energy Act of 1954, as amended, and the Nuclear Non-Proliferation Act of 1978 and determined that certain classes of nuclear export license applications do not raise issues which require review by the Commissioners. Therefore, the Commission has revised its regulations to delegate authority to the NRC staff to act upon certain classes of applications without prior consultation with the Commissioners. Under the revised regulations, the Commissioners will continue to review all applications seeking a license to export production and utilization facilities. In addition, the Commissioners will review all exports of one effective kilogram or more of high enriched uranium and plutonium (except for plutonium comprised of 80% or more of Pu-238), all exports of 1,000 kilograms or more of heavy water or nuclear grade graphite, and any NRC-licensed components destined for use in a reprocessing, enrichment or heavy water production facility. The Commissioners will also review any proposed export of any material or equipment, including Section 109 components, items and substances to a country to which the Commissioners have not previously authorized an export pursuant to the Nuclear Non-Proliferation Act of 1978. Other license applications will be reviewed by the Commissioners if either the NRC staff or a majority of the Commissioners determines the application should be reviewed by Commissioners.

Under the revised regulations the Commission will continue to review applications raising major policy or legal issues. By providing the NRC staff with more authority to act on routine applications without prior Commissioner consultation, the export licensing process will be expedited. This modification furthers the policy set forth in Section 2 of the Nuclear Non-Proliferation Act that the U.S. be a timely and reliable supplier of nuclear commodities to countries which have adopted effective non-proliferation policies.

Because these amendments relate solely to matters of internal agency procedures, and effective utilization of agency personnel, good cause exists for omitting notice of proposed rulemaking, and public procedure thereon, as unnecessary and for making the amendment effective February 20, 1980.

Pursuant to section 2201(p) of Title 42 of the United States Code, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 110, are published as a document subject to codification, to be effective February 20, 1980.

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45 FR 18370
Published 3/21/80
Effective 4/21/80

10 CFR Part 110

Export and Import of Nuclear Equipment and Material; Export of Certain Minor Quantities of Nuclear Material

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations by simplifying its licensing requirements for the export of certain quantities of nuclear material which do not have significance from a nuclear proliferation perspective. The amendments establish or expand general licensing provisions for gram quantities of special nuclear material (SNM) and certain kinds of source and byproduct material. The amendments, which reflect public comments, are the result of an extensive review by the Commission and the Executive Branch aimed at updating and streamlining NRC regulations to permit the expedited export of nuclear material where no significant nuclear proliferation risks are involved. This final rule leaves unchanged the general license for the export of americium–241. Revisions to that general license will be proposed in a separate rulemaking proceeding.

EFFECTIVE DATE: April 21, 1980.

FOR FURTHER INFORMATION CONTACT: Joanna M. Becker, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone 301/492–7630 or Marvin R. Peterson, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone 301/492–8155.

SUPPLEMENTARY INFORMATION: On May 9, 1978, NRC published in the Federal Register (43 FR 19861) a proposal to amend 10 CFR Part 110. The proposed amendments would simplify licensing requirements for the export of certain minor quantities of nuclear material. The proposed amendments would establish a new general license for the export of up to 3 grams of SNM when contained in sensing components installed in instruments, and for the export of plutonium–238 when contained in cardiac pacemakers.

In addition, it was proposed that authority be provided for the issuance of specific licenses to export plutonium–238, up to 3 grams of any other SNM and 100 grams or less of SNM diluted so as to be unusable for any nuclear activity relevant from the point of view of safeguards and practicably irrecoverable, other than under the terms of an agreement for cooperation with another nation.

The existing general licenses for source material would be revised to eliminate, where possible, the more restrictive application of general licenses with respect to exports to communist countries.

Because of the national security concern over the possible use of americium–241 and polonium–210 as neutron sources, the existing general licenses for these materials would be revoked.

The existing general license for byproduct material having an atomic number between 3 and 83 would be broadened to encompass exports to most communist countries. The existing licensing exemptions for commodities containing byproduct material would be eliminated, since these exemptions would no longer be needed to permit exports to those communist countries not allowed to receive exports under the existing general license. Elimination of the byproduct material exemption would also preclude the export of any material to countries against which the United States then had a comprehensive trade embargo (Cambodia, Cuba, North Korea, Southern Rhodesia and Vietnam).

Finally, the cumulative limits on the export under general license of certain forms of tritium and polonium–210 would be eliminated.

Twenty letters of comments from the public were received in response to the proposed rule. Copies of these comments have been placed in the Commission's Public Document Room at 1717 H Street NW., Washington, D.C.

Except for the proposed deletion of the general license for americium–241, the comments were generally in support of the proposed amendments. Of the 20 commenters, 14 objected to the proposed deletion of the americium–241 general license and requested retention of at least a portion of that license. Several recommendations were also made to revise NRC's export regulations to provide general licenses for additional items.

In addition to the public comments, the Executive Branch requested that the proposed general license for SNM contained in instruments be revised to restrict the amount of plutonium and uranium–233 in each instrument to .1 gram because of the possible national security concerns over the use of these materials.

In view of these comments, the Commission has decided on a two-stage approach. First, it has adopted those portions of the proposed amendments which were not the subject of significant criticism. Second, it will address the issue of the americium–241 general license in a revised proposed amendment to be published at a later date. The requests for additional general licenses will also be considered in this separate rule making proceeding.

With respect to the amendments which follow, the resolution of the comments received is as follows:

1. Section 110.22 Export of special nuclear material. The quantity of plutonium and uranium–233 permitted to be exported has been limited to .1 gram per instrument. This general license has also been clarified to specify that (a) the 3 gram and .1 gram limitations apply to the quantity of SNM contained in each instrument, and not to individual shipments; and (b) that there is no quantity limitations for plutonium–238 contained in cardiac pacemakers.

2. Section 110.24 Export of byproduct material (formerly numbered § 110.21). As noted above, the general license for americium–241 has not been revoked (§ 110.24(e)).

3. The general license for tritium in luminous safety devices installed in aircraft has been retained. The proposed amendments inadvertently would have required a specific license for 100 curies or more of tritium in such devices on a single aircraft.

4. One commenter requested clarification as to whether an export license could be issued authorizing several shipments over a period of a year or more. Section 110.30(d) of Part 110 speaks clearly to this matter.

5. Pursuant to Executive Order 12183 of December 16, 1979, the embargo of exports to Zimbabwe-Rhodesia has been deleted.

6. In addition, editorial amendments or corrections have been made in §§ 110.22 through 110.28 and § 110.44. It should also be noted that § 110.13 is deleted. This deletion was discussed in the statement of considerations accompanying the proposed rule but was inadvertently not included in the text of the proposed amendments. Also, in § 110.24, the general license to export tritium contained in labeled organic compounds has been changed to include tritium in inorganic compounds as well.

The paragraph concerning reporting requirements (included in the proposed rule as § 110.26) has also been deleted. These requirements were necessary because of international export-control procedures subscribed to by the United States. However, due to a recent change in these procedures, reporting is no longer required.

The Commission has concluded that the amendments, including the exemption in § 110.44(a)(1), are not inimical to the common defense and security, do not constitute an unreasonable risk to the public health and safety, and will not result in any activity that adversely affects the environment. Furthermore, the amendments are consistent with the provisions of the Atomic Energy Act of 1954, as amended by the Nuclear Nonproliferation Act of 1978, and do not conflict with the safeguards criteria of the International Atomic Energy Agency.

The amendments are not inconsistent with the obligations of the United States under any treaty or international arrangement, including the Treaty on the Non-Proliferation of Nuclear Weapons.

Commissioner Bradford non-concurred in the proposed amendments exempting minor quantities from the Atomic Energy Act's Agreement for Cooperation requirement. He believes that the amendments are probably illegal under the Atomic Energy Act and would not approve them without Congressional action. Commissioner Bradford also non-concurred in the staff conclusion that general licenses could be exempted from the requirement of Section 128.

Since the amendments will not result in any increased requirements or expense to the public, the Commission has not prepared a separate value-impact analysis. Based on past licensing actions, the amendments should reduce the number of specific export licenses issued by the Commission by approximately 5 to 10 percent.

Accordingly, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 110, are published as a document subject to codification.

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45 FR 18905
Published 3/24/80
Effective 3/24/80

Deletion of reference to Panama Canal Zone; Minor Amendments

See Part 4 Statements of Consideration.

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45 FR 51184
Published 8/1/80
Effective 8/1/80

10 CFR Part 110

Export and Import of Nuclear Equipment and Material; Commission Review of Export License Application

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission has amended its regulations to narrow and clarify those classes of export license applications which will require Commissioner review. The Commission has determined that certain classes of nuclear export license applications do not raise issues which require review by the Commission.

EFFECTIVE DATE: August 1, 1980.

FOR FURTHER INFORMATION CONTACT: Marvin R. Peterson, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (301–492–8155).

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission has reviewed its processing of nuclear export license applications under the Atomic Energy Act of 1954, as amended, and the Nuclear Non-Proliferation Act of 1978 and determined that certain classes of nuclear export license applications do not raise issues which require review by the Commissioners. Therefore, the Commission has amended § 110.40(b)(5) of 10 CFR Part 110 to delegate additional authority to the NRC staff to act upon certain classes of applications without prior consultation with the Commissioners.

Presently, the Commissioners review all proposed exports to countries to which they had not previously authorized an export pursuant to the Nuclear Non-Proliferation Act of 1978. Under the amended paragraph, the Commissioners will review only applications for licenses to export source or special nuclear material for peaceful nuclear uses, or components, items and substances subject to section 109b. of the Atomic Energy Act of 1954, as amended, to such countries. In addition the Commission has amended § 110.40(b) (2) and (4) to clarify their intent.

Because these amendments relate solely to matters of internal agency management, notice of proposed rulemaking and public procedure thereon are not required by section 553 of Title 5 of the United States Code.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and sections 552 and 553 of Title 5 of the United States Code, the following amendment of Title 10, Chapter I, Code of Federal Regulations, Part 110, is published as a document subject to codification.

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47 FR 6610
Published 2/16/82
Effective 2/16/82

10 CFR Part 110

Export of Safeguards Samples Pursuant to the US/IAEA Safeguards Agreement

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to exempt the export of IAEA safeguards samples from the requirements for a license. This amendment will permit the United States to implement that portion of the US/IAEA Safeguards Agreement which involves the export of IAEA safeguards samples of special nuclear material from facilities designated by the IAEA for the application of safeguards. The amendment will permit the export of these samples without an export license, by NRC licensees, Agreement State licensees, and the U.S. Department of Energy.

EFFECTIVE DATE: February 16, 1982.

FOR FURTHER INFORMATION CONTACT:
Joanna M. Becker, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 492–7630; or
David A. Myers, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 492–8155

SUPPLEMENTARY INFORMATION: The US/IAEA Agreement for the Application of Safeguards in the United States (the Agreement) provides for the application of IAEA safeguards to selected U.S. nuclear facilities. On July 29, 1980, the Nuclear Regulatory Commission published in the **Federal Register** (45 FR 50705) a final rule adding a new part 75, and amending Parts 40, 50, 70 and 150 of the Commission's regulations. Part 75 and the conforming amendments establish the primary means by which the Agreement will be implemented with respect to NRC and Agreement State licensees.

The purpose of the following amendment to Part 110 is to facilitate certain safeguards activities, required by the Agreement, which will involve the export of IAEA safeguards samples of special nuclear material from those facilities designated by the IAEA for the application of safeguards.

An integral part of the safeguards approach at bulk handling facilities under IAEA safeguards is the destructive analysis of representative samples, drawn from the facility's inventory. This analysis is necessary to verify the element and isotopic content of a representative portion of the facility's inventory in order to establish confidence in the facility's reported inventory. This material sampling and analysis is not normally included in the IAEA safeguards approach for most types of reactors.

The total annual quantity of safeguards samples is anticipated to be 100 grams or less of contained fissile material (Pu, U-233 and U-235) per facility.

While it would be administratively possible for each NRC and Agreement State licensee selected by the IAEA for the application of safeguards and for the Department of Energy (DOE), to apply for a specific license to export IAEA safeguards samples, exempting these exports from the requirements for a license will avoid: (1) An administrative burden on licenses or DOE who otherwise would have to file applications for specific licenses; (2) possible delays which might result from NRC processing of specific license applications; and (3) the problems which would arise if the operator of a safeguarded facility did not apply promptly for a specific license. Exempting these exports from the requirements for a license is consistent with the provisions in section 122 of the Atomic Energy Act, as amended, that the Commission "give maximum effect to the policies contained in any international arrangement" and with NRC's policy to minimize the burden on licensees of implementing the Agreement.

Pursuant to sections 57d. and 54c. of the Atomic Energy Act of 1954, as amended, the Commission has concluded that exemption from the requirements for a license for the export of IAEA safeguards samples is not inimical to the common defense and security, and does not constitute an unreasonable risk to the public health and safety. Furthermore, the amendment is consistent with other provisions of the Atomic Energy Act, as amended by the Nuclear Nonproliferation Act of 1978, with the Treaty on the Nonproliferation of Nuclear Weapons, and with the obligations of the United States under the US/IAEA Safeguards Agreement.

The Commission has not prepared an environmental impact statement or a negative declaration since the amendment is non-substantive and insignificant from the standpoint of environmental impact.

The final rule contains no new or amended requirements for recordkeeping, reporting, plans or procedures, applications, or any other type of information collection subject to the Paperwork Reduction Act of 1980.

Since the amendment will not result in any increased requirements or expense to the public, the Commission has not prepared a separate value-impact analysis. Based on preliminary estimates, the amendment should reduce the number of specific export licenses required for implementation of the US/IAEA Safeguards Agreement by approximately 3 licenses per bulk handling facility per year.

Licensees should note that nothing in the amendment is intended to relieve any person from complying with other U.S. government agencies' regulations applicable to exports under their authority, any pertinent requirement in Parts 71 and 73 of Title 10 of the Code of Federal Regulations, or any Commission order pursuant to section 201(a) of the Energy Reorganization Act of 1974, as amended, pertaining to shipment of plutonium by air.

Because this amendment involves the foreign affairs functions of the United States, notice of proposed rulemaking and public procedure thereon are not required by sSection 553 of Title 5 of the United States Code. Since the amendment grants an exemption from regulations currently in effect, it will become effective without the customary 30-day notice.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendment to 10 CFR Part 110 is published as a document subject to codification.

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47 FR 44111
Published 10/6/82
Effective 10/6/82

10 CFR Part 110

Export of Australian-Origin Nuclear Material and Equipment

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to require persons holding export licenses to notify the Commission in certain circumstances before shipping nuclear material or equipment of Australian-origin. This requirement is necessary to carry out those provisions of the U.S./Australia Agreement for Cooperation Concerning Peaceful Uses of Nuclear Energy that require the U.S.

Government to obtain the prior consent of the Australian authorities before exporting Australian-origin nuclear material or equipment to a third country.

EFFECTIVE DATE: October 6, 1982.

FOR FURTHER INFORMATION CONTACT:

Marvin R. Peterson, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 492–4599; or
Joanna M. Becker, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 492–7630

SUPPLEMENTARY INFORMATION: The U.S./Australia Agreement for Cooperation Concerning Peaceful Uses of Nuclear Energy (the Agreement) entered into force on January 16, 1981. Article 13, paragraph 2, of the Agreement requires the parties to "establish administrative arrangements to ensure the effective implementation" of the Agreement. Negotiations between the U.S. and Australian authorities regarding these administrative arrangements have been completed and it appears that most of the provisions of the Agreement can be implemented without imposing any new requirements on persons licensed under the Atomic Energy Act of 1954, as amended. However, Article 5, paragraph 2, of the Agreement requires the U.S. to obtain the agreement of the Australian authorities before export of nuclear material or equipment of Australian origin from the United States.

In view of the limited amount of nuclear commerce between the U.S. and Australia, the impact of this rulemaking action on NRC export licensees is expected to be minimal. The NRC staff estimates that less than ten holders of export licenses per year will be affected. Most of these licenses are for the export of low-enriched uranium derived from Australian-origin source material. Furthermore, in many of these cases it will be possible to identify Australia as the country of origin at the time the export license application is originally submitted. In these instances, NRC will confirm that Australia agrees to the export of its material or equipment before the export license is issued and NRC will indicate this approval on the face of the license. No further notification to NRC by the licensee will then be required before shipment. In other instances, however, the country of origin will not be known at the time of license issuance and the advance notification requirement imposed by the regulation that follows will apply should the material or equipment be subsequently identified as being of Australian origin.

When advance notification is made to NRC of a proposed shipment of Australian material or equipment, the NRC will promptly consult with the appropriate Executive Branch officials regarding Australian consent for the export. These consultations should normally be completed well within the 40-day advance notification period.

The Commission has not prepared an environmental impact statement or a negative declaration since the amendment is non-substantive and insignificant from the standpoint of environmental impact.

Since delay in promulgating this amendment could result in action inconsistent with the Agreement and because a foreign affairs function of the United States is involved, Commission notice of proposed rulemaking and public procedures thereon are not required by Section 553 of Title 5 of the United States Code. Since the U.S.-Australia Agreement for Cooperation requires Australian consent to the exports that will be subject to the amendment, the Commission finds that good cause exists for making the amendment effective without the customary 30-day notice.

Paperwork Reduction Review

The information collection requirement contained in this final rule is required by law or to obtain a benefit and submitted to nine or fewer people. Therefore, OMB clearance under Pub. L. 96–511 is not required.

List of Subjects in 10 CFR Part 110

Administrative practice and procedures, Classified information, Export, Import, Intergovernmental relations, Nuclear materials, Nuclear power plants and reactors, Penalty, Reporting requirements, Scientific equipment.

PART 110 [AMENDED]

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Sections 552 and 553 of Title 5 of the United States Code, the following amendment to 10 CFR Part 110 is published as a document subject to codification.

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49 FR 2881
Published 1/24/84
Effective 1/24/84

10 CFR Part 110

NRC Export Licensing Authority; Interpretation

AGENCY: Nuclear Regulatory Commission.

ACTION: Interpretative rule.

SUMMARY: The Nuclear Regulatory Commission is issuing an interpretative rule that further specifies those components especially designed or prepared for use in a gas centrifuge uranium enrichment plant which are subject to the Commission's export licensing authority. This action will carry out the IAEA Zangger Committee's recommendation that these components be subject to export licensing control by supplier nations.

EFFECTIVE DATE: January 24, 1984.

FOR FURTHER INFORMATION CONTACT: Joanna M. Becker, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Phone: 301–492–7630 or Marvin R. Peterson, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Phone: 301–492–4599.

SUPPLEMENTARY INFORMATION: For the past two years the U.S and other nuclear supplier governments have engaged in discussions within the framework of the International Atomic Energy Agency's (IAEA) Zangger Committee to clarify the international nuclear export control "Trigger List" by specifying certain additional components especially designed or prepared for use in the gas centrifuge uranium enrichment process. Agreement has not been reached on the specific centrifuge components to be added and their detailed definitions. Currently, all especially designed and prepared enrichment plant components are subject to NRC's export licensing control under a general heading in Appendix A of NRC's export licensing regulations (10 CFR Part 110). However, in order to improve the administration of export controls over these components, the U.S. and the other supplier governments, working in the context of IAEA's Zangger Committee, have agreed that a more detailed listing of the components covered should be prepared and included in each government's export control regulations. As a result of this agreement, the Department of State, as the responsible U.S. Government agency for undertaking the Zangger Committee negotiations, has recommended that the Commission publish an appropriate interpretative notice in the **Federal Register** which lists the new specified components.

Appendix A to 10 CFR Part 110 lists all of the nuclear equipment and material subject to NRC's export/import licensing authority. Paragraph (b) of Appendix A covers isotope separation equipment as follows:

> (b) Plants for the separation of the isotopes of source material, special nuclear material or lithium, and specifically designed or prepared equipment and components therefor as

follows:

(1) Uranium hexafluoride (UF6) corrosion resisiant valves.

(2) Units capable of separating isotopes of source material, special nuclear material or lithium, such as (i) gas centrifuges, (ii) jet nozzle separation units, (iii) vortex separation units, and (iv) laser isotope separation units.

(3) Uranium hexafluoride (UF6) corrosion resistant axial or centrifugal compressors, and specielly designed or prepared seals for such compressors.

(4) Gaseous diffusion barriers specially designed or prepared for use in separating isotopes of source material, special nuclear material or lithium.

(5) Gaseous diffuser housings specially designed or prepared for use in plants for separating isotopes of source material, special nuclear material or lithium.

(6) Heat exchangers specially designed or prepared for use in gaseous diffusion plants.

(7) Any other equipment or component specially designed or prepared for use in an isotope separation plant.

(8) Specially designed or prepared parts and components for any of the above.

The components specified by the Zangger Committee are covered by paragraphs (b)(2)(i), (b)(7) and (b)(8) of Appendix A. Accordingly, the effect of this interpretative rule is to clarify that the specific components identified are especially designed or prepared for use in gas centrifuges and are subject to the statutory export licensing criteria of section 109 of the Atomic Energy Act of 1954, as amended. Assistance to foreign uranium enrichment programs is subject to very stringent requirements. Therefore, any proposed export of enrichment plant components would be subject not only to criteria (1), (2) and (3) of section 109b. but more stringent requirements to meet the non-inimicality criterion and other provisions of the Act as now apply.

Until the clarification recently agreed upon, many of the components specified by the Zangger Committee have been under the export control authority of the Commerce Department as "dual-use" commodities pending the determination of their "especially designed or prepared" status. As a result, this interpretative rule has been coordinated with the Commerce Department, which will also be publishing in the near future an appropriate notice clarifying that it no longer will exercise export licensing authority over gas centrifuge enrichment components now specified as especially designed or prepared. Commerce will continue to exercise export licensing controls over a wide-range of other dual-use nuclear-related commodities, including several with potential gas centrigue related end-uses.

List of Subjects in 10 CFR Part 110

Administrative practice and procedures, Classified information, Export, Import, Incorporation by reference, Intergovernmental relations, Nuclear material, Nuclear power plants and reactors, Penalty, Reporting and recordkeeping requirements, Scientific equipment.

49 FR 9352
Published 3/12/84
Effective: Upon approval of OMB or 6/7/84.

Environmental Protection Regulations for Domestic Lincensing and Related Regulatory Functions and Related Conforming Amendments

See Part 51 Statements of Consideration

49 FR 19623
Published 5/9/84
Effective 5/9/84

Information Collection Requirements; Display of OMB Control Numbers

See Part 0 Statements of Consideration

49 FR 24512
Published 6/14/84
Effective 6/7/84

Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions and Related Conforming Amendments

See Part 2 Statements of Consideration

≫ 49 FR 47191
Published 12/3/84
Effective 1/2/85

10 CFR Part 110

Export and Import of Nuclear Equipment and Material

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is amending its regulations pertaining to the export and import of nuclear equipment and material. The amended regulations expand the authority to export nonsensitive nuclear equipment and minor quantities of nuclear material without applying for and obtaining a specific NRC license authorizing the action. These amendments are intended to reduce the total number of required licensing actions without affecting the Commission's existing rigorous controls over the export of proliferation-sensitive nuclear commodities.

EFFECTIVE DATE: January 2, 1985.

FOR FURTHER INFORMATION CONTACT: Marvin R. Peterson, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492–4599 or Joanna M. Becker, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492–7630.

SUPPLEMENTARY INFORMATION: On March 1, 1984, the Nuclear Regulatory Commission (NRC) published a proposed amendment in the **Federal Register** to 10 CFR Part 110, its regulation governing the export and import of nuclear equipment and material (49 FR 7572). These proposed amendments contained provisions that would expand the authority to export nonsensitive nuclear equipment and minor quantities of nuclear material under a general license.

These amendments would reduce the number of actions that would require an exporter to apply for and obtain a specific NRC license that would authorize the export of certain types of nuclear equipment and certain quantities of nuclear material, thereby reducing the regulatory burden on the public and the administrative burden on the NRC staff. The proposed amendments also contained several miscellaneous changes to simplify and clarify the provisions of 10 CFR Part 110.

The final rule which follows, with only minor exceptions, adopts the admendments as proposed. The amendments can be divided into four broad categories: (1) New or revised general licenses; (2) elimination of unnecessary paperwork and other regulatory burdens on licensees; (3) simplification and clarification of certain sections of Part 110; and (4) corrections and other nonsubstantive technical amendments.

The new and revised general licenses incorporate for the first time in NRC's regulations the U.S. Government policy of facilitating nuclear cooperation with countries sharing U.S. nonproliferation goals. The Departments of Commerce and Energy have adopted similar general licensing provisions for nuclear-related commodities and technology under their respective export licensing and approval authorities. Under this concept, the general licenses are divided into essentially two categories. Those in the first category permit exports to all countries except certain embargoed countries: Cuba, Kampuchea, North Korea, and Vietnam. The Commission and the Executive Branch have reviewed these general licenses and concluded that the material involved is insignificant from the standpoint of possible proliferation concerns, regardless of the country of destination. The general licenses in the second category apply to a narrower category of countries, i.e., those states, except for Libya, Iraq, Syria, and Iran, which are adherents to the Nuclear Nonproliferation Treaty (NPT), plus France, Spain, and the Peoples Republic of China. While additional commodities could be exported under the general licenses in this category, they are only moderately more significant from a proliferation standpoint than those in the first category. As a further caution, a general license may not be used if the exporter knows, or has reason to believe, that the material will be used in any activities related to isotope separation, chemical reprocessing, heavy water production or the fabrication of nuclear fuel containing plutonium. The new component general license is further limited to only those countries which, in addition to sharing good nonproliferation credentials, have provided the U.S. with generic assurances that they meet the criteria set out in section 109 of the Atomic Energy Act. For easy reference, a detailed comparison of the new or revised general licenses with the former general licenses is included at the end of this statement of considerations.

The Commission believes that this new approach to general licenses can benefit U.S. nonproliferation objectives by demonstrating to countries abroad the advantages of supporting effective nonproliferation policies. It also conforms to section 2 of the Nuclear Non-Proliferation Act of 1978 (NNPA) with respect to confirming the reliability of the United States as a supplier of nuclear equipment and material to those countries which adhere to effective nonproliferation policies. At the same time, the Commission remains concerned about the further spread of sensitive nuclear activities (i.e., isotope separation, chemical reprocessing, heavy water production and plutonium fuel fabrication) beyond those advanced nations that are already engaging in those activities. The Commission intends to monitor developments in these areas closely and, should additional countries make any significant moves that are inconsistent with U.S. law and policy, such as the design or acquisition of sensitive nuclear facilities or the commencement of research and development programs to acquire such facilities, the Commission will promptly initiate steps, after consulting with the Executive Branch, to revoke the eligibility of these countries for favorable general license treatment.

The new or revised general licenses are as follows:

1. Paragraph 110.21(a)(1): New general license for the export of low-enriched uranium in contaminated items or substances.

2. Paragraph 110.21(b)(1): New general license for the export of up to 0.001 effective kilogram per shipment of any special nuclear material.

3. Paragraph 110.21(b)(2): New general license for the export of replacements for damaged or defective fuel elements.

4. Paragraph 110.22(a)(2): Revision to the general license for export of thorium to conform with revisions in the international export control (COCOM) embargo list.

5. Section 110.23: Revisions to general licenses to export byproduct material to provide for expanded authority to export tritium and other byproduct material with an atomic number greater than 83 (e.g., californium-252, neptunium-237 and berkelium-249).

6. Paragraph 110.23(b): Revision to the general license to export americium-241 to restrict generally-licensed exports to certain destinations (i.e., the general license is limited to americium-241 incorporated in petroleum exploration equipment).

7. Section 110.24: Increase in the amount of deuterium authorized for export under a general license.

8. Section 110.25: Revision to the general license to export nuclear grade graphite to cover exports of fabricated nonnuclear-related commercial products (e.g., electrodes, golf clubs, fishing rods, etc.).

9. Paragraph 110.22(b): Increase from 1 to 10 kilograms of source material authorized for export under general license. This revision conforms with revisions of the COCOM embargo list and is consistent with the export control guidelines in IAEA INFCIRC/254, "Guidelines for Nuclear Transfers" (Supplier Guidelines).

10. Section 110.26: New general license for the export of nuclear reactor components to light water- or heavy water-moderated research or power reactors in designated countries which have acceptable nonproliferation credentials and which have also provided the U.S. with generic assurances that they meet the Section 109 criteria of the Atomic Energy Act. Except for France, NPT adherence or acceptance of full-scope IAEA safeguards is a necessary condition for placing a country on the authorized list. Persons making exports under this new general license are also required to submit an annual report of all components shipped during the previous calendar year.

11. Section 110.27: New general license for the import of special nuclear material, except for spent fuel in quantities exceeding 100 kilograms.

In addition to the new and revised general licenses, the following amendments have been made to Part 110:

1. Sections 110.1 and 110.3 through 110.5 are revised and simplified.

2. In § 110.2, editorial changes are made and definitions added for "NPT" and "IAEA." The "Nuclear grade graphite" definition is also revised to conform with international export control guidelines and the definition of a "person" is revised to clarify that, with respect to imports, the Department of Energy is not considered a person.

3. Section 110.6 is revised to (1) cover produced SNM and (2) eliminate the requirement for approvals in cases where the retransfer has been approved in the context of a previously issued NRC export license.

4. Former §§ 110.11 and 110.12 are deleted because they are replaced or encompassed by the proposed new general licenses in § 110.27 and § 110.21(b)(1), respectively. Former § 110.13 is redesignated § 110.11.

5. Paragraph 110.30(d), concerning consolidated license applications, has been revised to eliminate the two year time period limitation and the restriction to "reasonably similar circumstances." These provisions, which stem from subsection 126a.(2) of the Atomic Energy Act, apply only to single Commission findings involving multiple export license applications.

6. Section 110.30 is revised and expanded in scope to encompass the provisions of existing §§ 110.30, 110.35, and 110.36 [except that the requirement in former § 110.36(b) is deleted as unnecessary].

7. Section 110.31 is revised to incorporate, in simplified form, the provisions of former §§ 110.31 through 110.34.

8. Former § 110.35(b) is deleted as unnecessary.

9. Sections 110.40 and 110.41 are revised for clarification and to expand the categories of cases not requiring Executive Branch review.

10. In § 110.42, editorial changes are made and certain provisions from former § 110.44 are added so that § 110.42 contains a comprehensive listing of all the applicable export licensing criteria for NRC-licensed equipment and material. The changes also specify that health and safety findings (pertaining to health and safety in the U.S.) are required only for issuance of licenses to export production and utilization facilities.

11. In § 110.43, the provision for "countrywide" physical security findings has been expanded to cover exports of all categories of nuclear material.

12. In § 110.44, editorial changes are made to accommodate the transfer of certain provisions to § 110.42. Changes

are also made to reflect the fact that byproduct material export license applications, for which the Commission cannot make the requisite statutory findings after receipt of favorable Executive Branch judgments, will not be referred to the President for action since applicable statutes do not contemplate referral. These applications will be denied by the Commission.

13. Section 110.45 is revised to specify that its provisions do not apply to byproduct material exports.

14. In § 110.50, paragraph (b)(3) is deleted as unnecessary.

15. Section 110.51 is revised to specify that license amendments are not required for certain changes in intermediate consignees.

16. In § 110.70, the categories of license applications noticed in the **Federal Register** are revised to eliminate noticing requirements for imports and for low-enriched uranium export license applications and applications for export of less than five effective kilograms of plutonium, high-enriched uranium or uranium-233.

17. Editorial changes are made in §§ 110.83 and 110.84.

18. Section 110.89 is revised to clarify certain filing and service requirements.

19. Paragraphs (b) and (c) of § 110.91 are deleted since their provisions for public dissemination of Commission staff and Executive Branch views are adequately covered in § 110.72. The Commission intends to adhere to its practice of making unclassified staff and Executive Branch views promptly available to the public.

20. Paragraph 110.103(a) is revised to eliminate the requirement for binding hearing documents on the left side.

21. The contents of former Appendix A are incorporated into new §§ 110.8 and 110.9.

22. A new Appendix A is added which lists gas centrifuge enrichment plant components which are under NRC's export licensing authority. This appendix was published in the **Federal Register** originally as part of an interpretative rule on January 24, 1984 (49 FR 2881).

23. Appendix C is redesignated Appendix B and footnote c to the appendix is revised to conform to IAEA INFCIRC/225-Rev. 1.

Analysis of Public Comment

The public comment period on the proposed rule expired April 17, 1984. The NRC received comments from six sources including individuals, businesses, and the Executive Branch. The following discussion summarizes the comments received and describes the actions taken in response to these suggestions.

Nuclear Control Institute. The Nuclear Control Institute (NCI) comments, in general, objected to any amendments which would relax the Commission's existing export licensing regulations. The Commission shares NCI's concern regarding the continued necessity of strong export licensing regulations which are rigorously implemented and enforced. The Commission has exercised proper caution in this regard by assuring that the amendments, insofar as they alter current requirements, involve only nonsensitive matters which do not affect existing rigorous controls over proliferation-sensitive nuclear commodities.

NCI also suggested that the Commission delay action which affects component exports until completion of action on several pending legislative proposals directed at nuclear component exports. Although these proposals failed to pass during the 98th Congress, the Commission recognizes that eventual passage of some of the bills if resubmitted would require changes in Part 110. The Commission will take action to amend Part 110 promptly upon the passage of any legislation requiring amendments to the regulations. However, in view of the delay in final consideration of the contemplated legislative changes, the Commission believes that the pending Part 110 amendments should be implemented as planned. This is particularly so since only one portion of the amendments would be affected by the legislation as originally proposed.

NCI also had several comments directed at specific proposed amendments to which the Commission responds as follows:

1. Section 110.6: NCI objects to the proposed amendment to § 110.6 which would clarify that retransfers of material and equipment approved in the context of an export license do not require separate Department of Energy (DOE) approval as a "subsequent arrangement" under the requirements of the Nuclear Non-Proliferation Act of 1978 (NNPA).

The Commission does not agree that this amendment would conflict with the requirements for separate DOE review under section 131 of the Atomic Energy Act. The amendment simply clarifies what has, in fact, been Commission and Executive Branch practice since enactment of the NNPA in 1978. Separate reviews are required only when the ultimate end use is not known at the time of the original export license application. A typical case involves the export of low-enriched uranium fuel for fabrication in one country and then reexport to a second country for installation in a power reactor. In these cases, the Commission views the application as an export to the second country with an intermediate consignee in the first country. The Executive Branch and the Commission have agreed that it is unnecessary to require a separate (and duplicate) DOE review of the reexport to the ultimate consignee in the second country. The Commission notes that such retransfer approvals do not extend to retransfers for such sensitive end uses as reprocessing. These types of retransfers will continue to be subject to separate DOE review as a "subsequent arrangement" under section 131 of the Atomic Energy Act.

2. Section 110.7: NCI objects to the Commission's practice (since 1978) of conforming its export licensing jurisdiction with the international export control "Trigger List" and suggests the Commission's jurisdiction should be expanded to cover additional proliferation-sensitive items.

The Commission agrees with NCI that there are many commodities outside NCR's jurisdiction which may be significant from a nuclear proliferation standpoint. Nevertheless, the Commission does not believe there is any need to change the scope of NRC's export licensing jurisdiction because section 309(c) of the NNPA provides for adequate nonproliferation export controls over nuclear commodities licensed by the Department of Commerce. The Commission staff has worked closely with the Executive Branch in establishing the Commerce Department's export control "Nuclear Referral List" and consults with the Executive Branch on frequent occasions with regard to individual export license applications for items on this list. It is also relevant to note that the great majority of items licensed by the Commerce Department are so-called "dual-use" items, such as high speed computers, which have predominantly nonnulcear end uses. The Commission believes that, as a general matter, it is good administrative practice to limit the Commission's export licensing authority exclusively to nuclear items, where NRC's expertise is greatest, and to rely on the Commerce Department to consult with the Commission on those Commerce-licensed dual-use exports with potential proliferation significance.

3. Paragraph 110.21(b)(2): NCI objects to the scope of the Commission's proposed new general license for the export of replacement fuel elements. To reduce the risk of misreporting as a means of accumulating low-burn-up spent fuel containing weapons-grade plutonium, NCI recommends that the general license be valid only until fuel elements are used in a reactor or for a period of one year after the initial export authorization.

The Commission does not agree with NCI's contention that the proposed general license would pose a realistic proliferation threat. Licensing experience since 1975 indicates that its provisions would need to be used only on rare occasions and where expeditious export is critical. In addition, there are only a limited number of exporters of enriched uranium fuel and significant exports of this material would also probably be subject to DOE enrichment contracts. These factors significantly minimize the risk of proliferation concerns with respect to the proposed general license. Accordingly, the Commission does not believe it necessary to make any change to the proposed general license.

4. Section 110.26: NCI recommends that the proposed component general license be revised to require notifications to the Commission of shipments under the license within 60 days of each export rather than a single annual report. NCI believes that this more rigorous reporting requirement would reduce the risk of the piecemeal accumulation of sensitive component exports.

While the suggested change would moderately increase the Commission's ability to monitor shipments, the significant increase in administrative reporting requirements on licensees that this change would entail (i.e., several hundred individually reportable shipments can be expected to be made under the general license at various times throughout a typical year) would far outweigh the modest decrease in proliferation concern, particularly since the general license would not apply to countries with significant potential proliferation concerns. In view of the limited number of countries involved and the lengthy period of time which would be required to construct an unauthorized reactor via the diversion route, the Commission concludes that an annual reporting requirement would be sufficient. However, the Commission will, as NCI proposed, review annually the proliferation implications of the components exported under the general license, and place the annual reports in the Public Document Room.

NCI also questioned the inclusion of Taiwan and South Korea on the list of countries which would be eligible to receive U.S. components under the proposed component general license.

In view of Taiwan's and South Korea's status as parties to the Nuclear Nonproliferation Treaty (NPT) and their nonproliferation credentials, the Commission has decided not to revise the list of countries as proposed. The Commission shares, however, NCI's general concern that exports under the proposed general license warrant careful monitoring. Accordingly, the Executive Branch has been notified formally by the Commission that NRC intends to monitor closely the activities of countries on the eligible lists and will not hesitate to take steps, after consulting with the Executive Branch, to revise a country's status if changed circumstances warrant.

5. Paragraph 110.30(d): NCI objects to the proposal to relax the existing limitations on consolidated license applications.

The Commission has decided not to accept the comment and change the amendment as requested. In view of the extremely wide range in proliferation significance of the various commodities licensed by NRC, it is not possible to devise any practical general guidelines for the scope and duration of individual export licenses. Conversely, a detailed set of export licensing guidelines for each commodity (and form of commodity) would be excessively complicated for incorporation into Part 110. Accordingly, the Commission will continue to exercise its careful case-by-case judgment regarding the appropriateness of any requested consolidated license application. For example, exports of high-enriched uranium will continue to be licensed individually. On the other hand, because of the limited proliferation concerns involved, unnecessary burdens would be imposed on exporters and the NRC staff if separate export licenses for each shipment of low-enriched uranium (LEU) fuel to power reactors in countries with good nonproliferation credentials are required. Furthermore, even for these countries, all long-term licenses are reviewed on an ongoing basis by the Commission. Should a material change in circumstances arise in the importing country, the Commission has sufficient authority to take appropriate action, including suspension or revocation of active export licenses.

6. Paragraph 110.35(b): NCI objects to the proposed deletion of the requirement for license applicants to amend their applications whenever substantive changes occur before the license is issued.

The Commission continues to believe that this provision should be deleted. If there should be a significant change in the export request, such as a change in the type of quantity of material or its destination, an applicant would be required, in its own self-interest, to notify the Commission. Otherwise the license as eventually issued by the Commission would not reflect the change in facts and could not be used.

7. Sections 110.40 and 110.41: NCI objects to the proposed revised guidelines for referring export license applications to the Commission and the Executive Branch for review.

The Commission does not agree that these proposed internal procedures for processing the less significant export license applications are inappropriate. The lack of Commissioner or Executive Branch review of certain categories of exports does not lessen in any way the substantive review of each application by the NRC staff with respect to compliance with statutory requirements. In addition, if there are significant changes in circumstances involving particular exports or recipient countries, the NRC staff will continue its practice of referring these cases to the Executive Branch and/or the Commissioners. Such referrals are contemplated by §§ 110.41(a)(8) and 110.40(b)(7).

8. Paragraph 110.41(d)(8): NCI objects to the proposed deletion of the dollar limit ($10,000) cutoff for those cases requiring Executive Branch review.

The Commission believes that a more meaningful basis for judging the proliferation significance of a particular export is the country of destination. This consideration led to the proposal to amend § 110.41 to delete the dollar cutoff criterion and replace it with a requirement that *all* export license applications for countries with questionable nonproliferation credentials be referred to the Executive Branch. Accordingly, the Commission has not retained the dollar limit.

9. Sections 110.44, 110.45(c): NCI objects to the proposed editorial amendment to § 110.45(c) which would *require* the Commission to issue an export license if "applicable statutory provisions are met." NCI prefers leaving license issuance optional and also revising the related provision in § 110.44 to conform with § 110.45(c).

The Commission does not agree with this position since, if all applicable statutory provisions have been determined by the Commission to be met, there is clearly no basis for the Commission to withhold issuance of the requested export license. Further, Section 126 b. of the Atomic Energy Act of 1954, as amended, *requires* the Commission to issue an export license when all applicable statutory requirements have been met.

10. Section 110.70: NCI objects to the proposal to eliminate **Federal Register** noticing requirements for low-enriched uranium fuel export license applications.

While the Commission agrees with NCI that public participation in the Commission's export license reviews should be permitted, it does not believe that this necessitates that all low enriched fuel export license applications be noticed in the **Federal Register.** Copies of all applications will continue to be placed in the Commission's Public Document Room. In addition, the great majority of persons interested in the Commission's export license proceedings are on a mailing list which provides a monthly list of all new NRC export license applications received. (Others desiring this listing can be added to the mailing list by contacting NRC's Office of International Programs). The list of applications received will normally be received in time for recipients to submit comments to the Commission on the pending applications prior to license issuance. The Commission believes that these latter means are more effective than **Federal Register** noticing in making interested parties aware of pending NRC export license applications. As an extra precaution, however, the Commission will continue to notice in the **Federal Register** receipt of license applications with potential proliferation significance, such as all proposed exports of significant quantities of high-enriched uranium.

Mr. E. Nemethy. Mr. Nemethy had 4 comments, none of which, in the Commission's view, warranted any revisions to the amendments as proposed. Mr. Nemethy's comments, and the Commission's responses to them, are as follows:

1. Paragraph 110.41(a)(7) requires Executive Branch review for export license applications to embargoed countries (i.e., those listed in § 110.28). Mr. Nemethy asked how it is possible to consider approving exports to "embargoed" countries.

The Commission would not normally consider licensing exports to countries listed in § 110.28 in view of the U.S. Government's general embargo on U.S. trade with those countries. However, although there have been no export licenses to an embargoed country issued to date, the Commission recognizes that it may be appropriate to consider exceptions to the general embargo in certain situations, such as the export of medical radioisotopes for humanitarian purposes.

2. Mr. Nemethy asked why the USSR isn't included on the lists of embargoed or restricted destinations. If the USSR is permitted to receive imports under the proposed general licenses, what would prevent it from reexporting the material to an embargoed destination?

With regard to Mr. Nemethy's first point, the Executive Branch and the Commission do not believe that the USSR poses any foreign policy concern or any proliferation risk with respect to any of the non-sensitive commodities under NRC's existing or proposed general licenses. With regard to Mr. Nemethy's second point, if the USSR should begin to retransfer NRC general-licensed commodities to embargoed countries in violation of Part 110, the Commission would clearly have grounds to consider placing the USSR on the restricted or embargoed country lists.

3. Mr. Nemethy asked what would prevent the USSR, or any other country, from retransferring any NRC-licensed export to a third country without obtaining DOE approval as required by § 110.6.

The Commission acknowledges that foreign countries could subvert U.S. export controls by diverting NRC-licensed exports from their original intended end use. There are actions that the U.S. Government can take, and has taken, however, to counter these concerns. For exports of proliferation significance, such as exports of reactors and significant quantities of special nuclear material, exports must be made under formal agreements for cooperation which contain explicit requirements for obtaining the prior consent of the U.S. Government before retransfers of U.S.-origin material can take place. As a result, any unauthorized retransfer would be a violation of the terms of the agreement and grounds for taking appropriate diplomatic action including cessation of further nuclear cooperation. For less significant commodities, the primary means for controlling reexports is through the export licensee. The Commission has the authority to impose appropriate sanctions on such licensees in cases of violations of any export license terms. In addition, the Commission could refuse to issue any new licenses for export to countries which permit the unauthorized retransfer of NRC-licensed commodities to third countries. To date, the Commission is not aware of any examples of the unauthorized retransfer by any country of any NRC-licensed commodity.

4. Mr. Nemethy asked, with reference to the proposed general license in § 110.21, what would prevent an exporter from exporting material for use in the specified proscribed sensitive activities and then later denying that he had any advance knowledge of the activities.

The Commission recognizes that in certain instances it may be difficult to establish that a violation is willful. This is particularly the case with respect to the proposed end use restrictions in § 110.21. Because of this situation, the Commission has limited severely the quantities and forms of materials that may be exported under a general license so that, even in the case of a deliberate violation, the proliferation risk would be minimal.

The Atomic Industrial Forum (AIF). AIF was generally in favor of the proposed amendments. It commented that reactor pressure tubes should be eligible for export under the proposed general license in § 110.26.

The Commission agrees with AIF's comment that reactor pressure tubes are eligible for export under the proposed general license in § 110.26 and the final rule has been correspondingly modified. The Commission also notes AIF's suggestion that NRC replace DOE as the agency responsible for obtaining official assurance letters from foreign governments with respect to proposed nuclear exports. The Commission plans to consult further with the Executive Branch on this matter.

The Department of Energy (DOE). DOE raised questions concerning the proposed general license for the export of Neptunium-237.

After consultation with DOE and the other Executive Branch agencies, it was concluded that it would be appropriate to adopt a limited Neptunium-237 general license which will permit the export of up to 1 gram per shipment and 10 grams per year to any one country. The previously proposal general license would have permitted the export of up to 1 kilogram of Neptunium-237 per year to any one country.

The Petroleum Equipment Suppliers Association (PESA). PESA claimed that the proposed general license for the export of Americium-241 could place undesirable constraints on the development of oil and gas resources around the world and recommended that the general license be modified.

The Commission has consulted with the Executive Branch on this matter and agreement has been reached to modify the proposed general license to permit exports of Americium-241 when contained in petroleum exploration equipment in quantities of up to 20 curies per device and 200 curies per year to countries listed in § 110.28. This modification will permit the unrestricted export of Americium-241 for the oil and gas exploration purposes cited by PESA.

3M Company. 3M objected to the revised general license in § 110.23(a)(4) because it would revoke the provisions of the former general license in § 110.24(c)(4) which permitted the essentially unrestricted export of polonium-210 in static eliminators.

The restriction on static eliminator exports was unintentional. The Commission has consulted with the Executive Branch and agreement has been reached to reinstate the former general license which will permit the continued export under general license of polonium-210 when contained in static eliminators. In addition, the Executive Branch has requested additional time to review the proposed general license for the export of polonium-210 when *not* incorporated in static eliminators. Accordingly, that proposed general license will not be adopted at this time.

Miscellaneous. The proposed language covering end use restrictions on general licenses in §§ 110.21(b) and 110.22(b) has been moved to § 110.20(d) so that the restrictions now apply to all exports under general license. The proposed general license for the export of nuclear grade graphite has been modified to make it simpler and clearer.

The list of restricted destinations in § 110.29 has been updated. Finally, the definition of a "person" in § 110.2 has been revised to specify that, with respect to imports, DOE is not defined as a person.

Note.—DOE has separate statutory authority to import nuclear equipment and material. As a result of this latter change, the proposed DOE contractor import exemption in § 110.11 is no longer necessary and it has been deleted. The Commission has concluded that the amendments are not inimical to the common defense and security, do not constitute an unreasonable risk to the public health and safety, and will not result in any activity which adversely affects the environment. Furthermore, the amendments are consistent with the Atomic Energy Act of 1954, as amended by the Nuclear Non-Proliferation Act of 1978, and do not conflict with the safeguards criteria of the International Atomic Energy Agency.

The amendments are not inconsistent with the obligations of the United States under any treaty or international arrangement, including the Treaty on the Non-Proliferation of Nuclear Weapons.

COMPARISON OF FORMER REGULATIONS WITH NEW CHANGES

New	Former
I. General License Revisions	
A. Special nuclear material:	
1. Low-enriched uranium as residual contamination (§ 110.21(a)(1))	None.
2. One effective gram or less of SNM to countries not listed in § 110.28 or § 110.29 § (110.21(b)(1)).	None.
3. Replacement fuel elements to countries not listed in § 110.28 or § 110.29 (§ 110.21(b)(2)).	None.
B. Source material:	
1. Thorium in alloys in concentrations of 5% or less to countries not listed in § 110.28 (§ 110.22(a)(2))	Thorium in aircraft parts only (§ 110.23(b)(2)).
2. Source material in individual shipments of 10 kilograms or less to countries not listed in § 110.28 or § 110.29 (§ 110.22(b))	Individual shipments of 1 kilogram or less (§ 110.23(a)(1))
C. Byproduct material:	
1. Byproduct material with an atomic number greater than 83, except polonium-210, americium-241 and neptunium-237 (§ 110.23(a)(1))	Americium-241 only (§ 110.24(d))
2. Tritium in light sources up to 10,000 curies per shipment (§ 110.23(a)(2))	100 curies per shipment limitation (except in aircraft safety devices) § 110.24 (b) and (c))
3. Tritium in any dispersed form in shipments of 100 curies or less (§ 110.23(a)(3))	Same, but limited to certain dispersed forms only (§ 110.24(c))
4. Neptunium-237 in shipments of 1 gram or less (§ 110.23(a)(5))	None.
5. Tritium in any form in shipments of 100 curies or less to countries not listed in § 110.28 or § 110.29 (§ 110.23(b)).	None.
D. Deuterium:	
1. Deuterium in shipments of 1 kilogram or less (§ 110.24(a))	90 grams of heavy water (18 grams of deuterium) or less per shipment (§ 110.25)
2. Deuterium in shipments of 10 kilograms or less to countries not listed in § 110.28 or § 110.29 (§ 110.24(b))	None.
E. Nuclear grade graphite in shipments of up to 100 kilograms or in fabricated non-nuclear related commercial products (§ 110.25).	Shipments of up to 100 kilograms only (§ 110.26).
F. Nuclear reactor components to certain countries (§ 110.26)	None.
G. Imports (§ 110.27)	Formerly authorized under exemption except no authority for SNM imports (§ 110.11).
II. Significant Other Changes to Part 110 (Other than general license)	
A. Section 110.6	Elimination of requirements for prior approval of retransfers when such retransfers have been approved in the context of issuing the original export license.
B. Section 110.30(d)	Elimination of provision limiting consolidated license applications to two year duration.
C. Section 110.41	Expansion of authority for NRC to process minor applications without referral to the Executive Branch (i.e., emphasis would be placed on reviewing exports for sensitive end uses or initial exports to new facilities).
D. Section 110.42	Clarification that health and safety findings are not required with respect to the impact abroad of reactor exports.
E. Section 110.50	Elimination of requirement to return expired licenses to NRC.
F. Section 110.51	Elimination of requirement to obtain license amendments for: (1) Changes in value (but not quantity) of nuclear equipment, (2) changes in addresses of consignees, and (3) addition of new intermediate consignees for component licensees.
G. Section 110.70	Elimination of requirement to notice receipt in the FEDERAL REGISTER of applications for imports and for export of LEU and less than 5 kgs. of HEU, U-233 or plutonium.

Environmental Impact: Categorical Exclusion

The NRC has determined that these amendments are a categorical exclusion under 10 CFR 51.22(c)(1). Therefore, neither an environmental impact statement nor an environmental assessment has been prepared for these amendments.

Paperwork Reduction Act Statement

This final rule amends information collection requirements that are subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). These requirements were approved by the Office of Management and Budget approval number 3150-0027.

Regulatory Analysis

The Commission has prepared a regulatory analysis on this final regulation. This analysis examines the costs and benefits of the alternatives considered by the Commission. The analysis is available for inspection in the NRC Public Document Room, 1717 H Street NW, Washington, DC. Single copies of the analysis may be obtained from Marvin R. Peterson, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492-4599.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission hereby certifies that this rule will not have a significant economic impact on a substantial number of small entities, except to reduce the regulatory burden on licensees by reducing significantly the number of specific license applications required. It is estimated that, among the approximately 125 exporters/importers affected, the number of specific license applications per year will be reduced from about 450 to 200. Assuming an average of one hour to prepare an application, this will reduce the cost to the public from about $27,000 to $12,000 per year.

List of Subjects in 10 CFR Part 110

Administrative practice and procedures, Classified information, Export, Import, Incorporation by reference, Intergovernmental relations, Nuclear materials, Nuclear power plants and reactors, Penalty, Reporting and recordkeeping requirements, Scientific equipment.

Under the authority of the Atomic Energy Act of 1954, as amended, and 5 U.S.C. 552 and 553, the following amendments to 10 CFR Part 110 are published as a document subject to codification.

> 49 FR 49841
Published 12/24/84

10 CFR Part 110

Export and Import of Nuclear Equipment and Material

Correction

In FR Doc. 84-31548, beginning on page 47191 in the issue of Monday, December 3, 1984, make the following corrections:

1. On page 47197, in the first column, in § 110.1, the second word in the fifth line of paragraph (a) should read "of".

2. Also on page 47197, in the second column, in § 110.2, the last word in the sixth line of the definition for "Person"

should read "any".

3. On page 47199, in the third column, in § 110.25, the second word in the eleventh line of paragraph (b) (the ninth line of the third column) should read "machining".

4. On page 47202, in the second column, in § 110.50, the last word in the eighth line of paragraph (b)(3) should read "licensee".

5. Also on page 47202, in the third column, the last word in the heading of § 110.53 should read "inspections".

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50 FR 12221
Published 3/28/85
Effective date will be published
at a later date.

Implementation of the Convention on Physical Protection of Nuclear Material

See Part 40 Statements of Consideration

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50 FR 20742
Published 5/20/85
Effective 5/21/85

10 CFR Part 110

Export of Reprocessing Plant Components

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to further clarify what components are especially designed or prepared for use in a nuclear fuel reprocessing plant and thus are subject to the Commission's export licensing authority. This action will implement the recent decision of the multilateral Non-Proliferation Treaty Exporters Committee (Zangger Committee) to adopt four new definitions to its international export control Trigger List covering specially designed or prepared reprocessing plant components.

EFFECTIVE DATE: May 21, 1985.

FOR FURTHER INFORMATION CONTACT: Marvin R. Peterson, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492–4599, or Joanna M. Becker, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492–7630).

SUPPLEMENTARY INFORMATION: During recent years, the U.S. and other nuclear supplier governments have engaged in discussions within the framework of the Non-Proliferation Treaty Exporters Committee (Zangger Committee) to further clarify the coverage of the international nuclear export control "Trigger List". In 1984, agreement was reached to specify coverage of certain additional components of uranium gas centrifuge enrichment plants (see 49 FR 2881, January 24, 1984). Agreement has now been reached on the adoption of new definitions of items specially designed or prepared for use in nuclear fuel reprocessing plants. Currently, all specially designed or prepared reprocessing components are subject in the U.S. to NRC's export licensing control under the provisions of 10 CFR 110.8(c) of NRC's export/import licensing regulations. As a result of the Zangger Committee's action, the Department of State, as the responsible U.S. Government agency for undertaking the Zangger Committee negotiations, has requested that the Commission take appropriate steps to implement the Zangger Committee's decision.

In support of the decision to adopt four new definitions of reprocessing plant components, the Zangger Committee also prepared an introductory note which further clarifies the basis for exercising export controls over the equipment specified. This note reads as follows:

Introductory Note: Spent Nuclear Fuel Reprocessing

Reprocessing irradiated nuclear fuel separates plutonium and uranium from intensely radioactive fission products and other transuranic elements. Different technical processes can accomplish this separation. However, over the years Purex has become the most commonly used and accepted process. Purex involves the dissolution of irradiated nuclear fuel in nitric acid, followed by separation of the uranium, plutonium, and fission products by solvent extraction using a mixture of tributyl phosphate in an organic diluent.

Purex facilities have process functions similar to each other, including: irradiated fuel element chopping, fuel dissolution, solvent extraction, and process liquor storage. There may also be equipment for thermal denitration of uranium nitrate, conversion of plutonium nitrate to oxide or metal, and treatment of fission product waste liquor to a form suitable for long term storage or disposal. However, the specific type and configuration of the equipment performing these functions may differ between Purex facilities for several reasons, including the type and quantity of irradiated nuclear fuel to be reprocessed and the intended disposition of the recovered materials, and the safety and maintenance philosophy incorporated into the design of the facility.

The equipment listed below performs key reprocessing functions. Each comes into direct contract with the irradiated fuel of process liquor and operates in an environment characterized by criticality, radiation, and toxicity hazards. These make remote control of the process essential.

(1) *Fuel element chopping.* The equipment breaches the cladding of the fuel to expose the irradiated nuclear material. Especially designed metal cutting shears are the most commonly employed. Although advanced equipment, such as lasers, may be used.

(2) *Dissolvers.* Dissolvers normally receive the chopped up spent fuel. In these critically safe vessels, the irradiated nuclear material is dissolved in nitric acid and the remaining hulls removed from the process stream.

(3) *Solvent extractors.* Solvent extractors both receive the solution of irradiated fuel from the dissolvers and the organic solution which separates the uranium, plutonium and fission products. Solvent extraction equipment is normally designed to meet strict operating parameters, such as long operating lifetimes with no maintenance requirements or adaptability to easy replacement, simplicity of operation and control, and flexibility for variations in process conditions.

(4) *Holding or storage vessels.* Three main process liquor streams result from the solvent extraction step. Holding or storage vessels are used in the further processing of all three streams, as follows:

(a) The pure uranium nitrate solution is concentrated by evaporation and passed to a denitration process where it is converted to uranium oxide. This oxide is reused in the nuclear fuel cycle.

(b) The intensely radioactive fission products solution is normally concentrated by evaporation and stored as a liquid concentrate. This concentrate may be subsequently evaporated and converted to a form suitable for storage or disposal.

(c) The pure plutonium nitrate solution is concentrated and stored pending its transfer to further process steps. In particular, holding or storage vessels for plutonium solutions are designed to avoid criticality problems resulting from changes in concentration and form of this stream.

(5) Plutonium nitrate to oxide conversion system. In most reprocessing facilities, this final process involves the conversion of the plutonium nitrate solution to plutonium dioxide. The main functions involved in this process are: process feed storage and adjustment, precipitation and solid/liquid separation, calcination, product handling, ventilation, waste management, and process control.

(6) Plutonium oxide to metal conversion system. This process, which could be related to a reprocessing facility, involves the fluorination of

READEX FICHE

plutonium dioxide normally with highly corrosive hydrogen flouride, to produce plutonium fluoride which is subsequently reduced using high purity calcium metal to produce metallic platonium and a calcium fluoride slag. The main functions involved in this process are: fluorination (e.g., involving equipment fabricated or lined with a precious metal), metal reduction (e.g., employing ceramic crucibles), slag recovery, product handling, ventilation, waste management, and process control.

These processes, including the complete systems for plutonium conversion and plutonium metal production, may be identified by the measures taken to avoid criticality (e.g., by geometry), radiation exposure (e.g., by shielding), and toxic hazards (e.g., by containment).

Regulatory Action Required

Currently, Part 110 specifies reprocessing plant component export licensing requirements for only (1) fuel element chopping machines; (2) criticality safe tanks; (3) countercurrent solvent extractors; and (4) process control instrumentation. The Zangger Committee's recent action will require the amendment to the solvent extractor entry in § 110.8(c)(3) and the addition of three new items: (1) Chemical holding or storage vessels; (2) plutonium nitrate to plutonium oxide conversion systems; and (3) plutonium metal production systems.

Because this amendment involves a foreign affairs function of the United States, Commission notice of proposed rulemaking and public procedures thereon are not required by section 553 of Title 5 of the United States Code. Since the State Department has requested expeditious action on this amendment in order to meet international commitments, the Commission finds that good cause exists for making the amendment effective without the customary 30-day notice.

Environmental Impact: Categorical Exclusion

The NRC has determined that this amendment is a categorical exclusion under 10 CFR 51.22(c)(1). Therefore, neither an environmental impact statement nor an environmental assessment has been prepared for this amendment.

Paperwork Reduction Act Statement

This final rule contains no information collection requirements and therefore is not subject to the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.).

Regulatory Analysis

Adoption of this amendment is necessary in order to maintain U.S. consistency with U.S.-supported international nuclear export control guidelines. No other NRC regulatory actions or alternative actions by other agencies address this matter nor are any alternative courses of action feasible. While this amendment impacts all potential U.S. exporters of reprocessing plant components, it is not expected to result in any increased regulatory burden since it essentially clarifies the scope of existing NRC export licensing controls. In addition, to date, NRC has neither received an application to export any reprocessing plant components nor are any such applications expected in the foreseeable future.

List of Subjects in 10 CFR Part 110

Administrative practice and procedures, Classified information, Export, Import, Incorporation by reference, Intergovernmental relations, Nuclear materials, Nuclear power plants and reactors, Penalty, Reporting and recordkeeping requirements, Scientific equipment.

Under the authority of the Atomic Energy Act of 1954, as amended, and 5 U.S.C. 552 and 553, the following amendment to 10 CFR Part 110 is published as a document subject to codification.

PART 140

FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

SUBPART A–GENERAL PROVISIONS

Sec.
140.1 Purpose
140.2 Scope
140.3 Definitions
140.4 Interpretations
140.5 Communications
140.6 Reports
140.7 Fees
140.8 Specific exemptions
140.9 Modifications of indemnity agreements
140.9a Information collection requirements: OMB approval.

SUBPART B–PROVISIONS APPLICABLE ONLY TO APPLICANTS AND LICENSEES OTHER THAN FEDERAL AGENCIES AND NONPROFIT EDUCATIONAL INSTITUTIONS

140.10 Scope
140.11 Amounts of financial protection for certain reactors
140.12 Amount of financial protection required for other reactors
140.13 Amount of financial protection required of certain holders of construction permits
140.13a Amount of financial protection required for plutonium processing and fuel fabrication plants
140.14 Types of financial protection
140.15 Proof of financial protection
140.16 Commission review of proof of financial protection
140.17 Special provisions applicable to licensees furnishing financial protection in whole or in part in the form of liability insurance
140.18 Special provisions applicable to licensees furnishing financial protection in whole or in part in the form of adequate resources
140.19 Failure of licensees to maintain financial protection
140.20 Indemnity agreements and liens
140.21 Licensee guarantees of payment of deferred premiums
140.22 Commission guarantee and reimbursement agreements

SUBPART C–PROVISIONS APPLICABLE ONLY TO FEDERAL AGENCIES

140.51 Scope
140.52 Indemnity agreements

SUBPART D–PROVISIONS APPLICABLE ONLY TO NONPROFIT EDUCATIONAL INSTITUTIONS

140.71 Scope
140.72 Indemnity agreements

SUBPART E–EXTRAORDINARY NUCLEAR OCCURRENCES

140.81 Scope and purpose
140.82 Procedures
140.83 Determination of extraordinary nuclear occurrence
140.84 Criterion I–Substantial discharge of radioactive material or substantial radiation levels offsite
140.85 Criterion II–Substantial damages to persons offsite or property offsite
140.91 Appendix A–Form of Nuclear Energy Liability Policy for Facilities
140.92 Appendix B–Form of Indemnity Agreement with Licensees Furnishing Insurance Policies as Proof of Financial Protection
140.93 Appendix C–Form of Indemnity Agreement with Licensees Furnishing Proof of Financial Protection in the Form of Licensees Resources
140.94 Appendix D–Form of Indemnity Agreement with Federal Agencies
140.95 Appendix E–Form of Indemnity Agreement with Nonprofit Educational Institutions
140.96 Appendix F–Indemnity locations
140.107 Appendix G–Form of indemnity Agreement with Licensees Processing Plutonium for Use in Plutonium Processing and Fuel Fabrication Plants and Furnishing Insurance Policies as Proof of Financial Protection
140.108 Appendix H–Form of Indemnity Agreement with Licensees Processing Plutonium for Use in Plutonium Processing and Fuel Fabrication Plants and Furnishing Proof of Financial Protection in the Form of the Licensees Resources

Authority: Secs. 161, 170, 68 Stat. 948, 71 Stat. 576, as amended (42 U.S.C. 2201, 2210); secs. 201, 202, 88 Stat. 1242, as amended, 1244 (42 U.S.C. 5841, 5842).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 140.11(a), 140.12(a), 140.13 and 140.13a are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); and § 140.6 is issued under sec. 161o, 68 Stat. 950 as amended (42 U.S.C. 2201(o)).

25 FR 2944

Subpart A—General Provisions

§ 140.1 Purpose.

The regulations in this part are issued to provide appropriate procedures and requirements for determining the financial protection required of licensees and for the indemnification and limitation of liability of certain licensees and other persons pursuant to section 170 of the Atomic Energy Act of 1954 (68 Stat. 919), as amended.

25 FR 2944

§ 140.2 Scope.

(a) The regulations in this part apply

(1) To each persons who is an applicant for or holder of a license issued pursuant to Part 50 of this chapter to operate a nuclear reactor, and

(2) With respect to extraordinary nuclear occurrences, to each person who is an applicant for or holder of a license to operate a production facility or a utilization facility, and to other persons indemnified with respect to such facility.

33 FR 15998

(3) To each person licensed pursuant to Part 70 of this chapter to possess and use plutonium in a plutonium processing and fuel fabrication plant.

42 FR 46

(b)(1) Subpart B of this part does not apply to any person subject to Subpart C or Subpart D of this part. Subpart C of this part applies only to persons found by the Commission to be Federal agencies. Subpart D of this part applies only to persons found by the Commission to be nonprofit educational institutions with respect to licenses and applications for licenses for the conduct of educational activities.

(2) Any applicant or licensee subject to this part may apply for a finding that such applicant or licensee is subject to the provisions of Subpart C or D of this part. The application should state the grounds for the requested finding. Any application for a finding pursuant to this paragraph may be included in an application for license.

25 FR 2944

(c) Subpart E of this part sets forth the procedures the Commission will follow and the criteria the Commission will apply in making a determination as to whether or not there has been an extraordinary nuclear occurrence. The form of nuclear energy lia-

33 FR 15998

bility policy for facilities (Appendix A) and the forms of indemnity agreements with licensees (Appendices B, C, D, and E) include provisions requiring the waiver of certain defenses with respect to an extraordinary nuclear occurrence. These provisions and Subpart E are incorporated in this part pursuant to Public Law 89-645 (80 Stat. 891). They provide additional assurance of prompt compensation under available indemnity and underlying financial protection for injury or damage resulting from the hazardous properties of radioactive materials or radiation, and they in no way detract from the protection to the public otherwise provided under this part.

33 FR 15998

§ 140.3 Definitions.

As used in this part,

(a) "Act" means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto.

(b) "Commission" means the Nuclear Regulatory Commission or its duly authorized representatives.

(c) "Federal agency" means a Government agency such that any liability in tort based on the activities of such agency would be satisfied by funds appropriated by the Congress and paid out of the United States Treasury.

(d) "Financial protection" means the ability to respond in damages for public liability and to meet the cost of investigating and defending claims and settling suits for such damages.

(e) "Government agency" means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

(f) "Nuclear reactor" means any apparatus, other than an atomic weapon, designed or used to sustain nuclear fission in a self-supporting chain reaction.

25 FR 2944

(g) "Person" means: (1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, Government agency other than the Commission or the Department, except that the Department shall be considered a person within the meaning of the regulations in this part to the extent that its facilities and activities are subject to the licensing and related regulatory authority of the Commission pursuant to section 202 of the Energy Reorganization Act of 1974 (88 Stat. 1244), any State or any political subdivision thereof, or any political entity within a State, any foreign government or nation or any political subdivision of any such government or nation, or other entity; and (2) any legal successor, representative, agent, or agency of the foregoing.

45 FR 14199

(h) "Plutonium processing and fuel fabrication plant" means a plant in which the following operations or activities are conducted:

(1) Operations for manufacture of reactor fuel containing plutonium, where the license or licenses authorize the possession of either five or more kilograms of plutonium, excluding that contained in sealed sources and welded or otherwise sealed unirradiated or irradiated fuel rods, at the site of the plant or authorize the processing of one or more kilograms of plutonium, excluding that contained in sealed sources and welded or otherwise sealed unirradiated or irradiated fuel rods, at the plant, including any of the following processes: (i) Preparation of fuel material; (ii) Formation of fuel material into desired shapes; (iii) Application of protective cladding; (iv) Recovery of scrap material; and (v) Storage associated with such operations; or

(2) Research and development activities involving any of the operations described in paragraph (h)(1) of this section, except for research and development activities where the operator is licensed to possess or use plutonium in amounts less than those specified in paragraph (h)(1).

(i) "Source material" means source material as defined in the regulations contained in Part 40 of this chapter.

(j) "Special nuclear material" means: (1) Plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or (2) any material artifically enriched by any of the foregoing, but does not include source material.

(k) "Testing reactor" means a nuclear reactor which is of a type described in § 50.21(c) of this chapter and for which an application has been filed for a license authorizing operation at:

42 FR 46

(1) A thermal power level in excess of 10 megawatts; or

(2) A thermal power level in excess of 1 megawatt, if the reactor is to contain:

(i) A circulating loop through the core in which the applicant proposes to conduct fuel experiments; or

(ii) A liquid fuel loading; or

(iii) An experimental facility in the core in excess of 16 square inches in cross-section.

25 FR 2944

(l) "Department" means the Department of Energy established by the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565, 42 U.S.C. 7101 *et seq.*), to the extent that the Department, or its duly authorized representatives, exercises functions formerly vested in the U.S. Atomic Energy Commission, its Chairman, members, officers and components and transferred to the U.S. Energy Research and Development Administration and to the Administrator thereof pursuant to sections 104 (b), (c) and (d) of the Energy Reorganization Act of 1974 (Pub. L. 93-438, 88 Stat. 1233 at 1237, 42 U.S.C. 5814) and retransferred to the Secretary of Energy pursuant to section 301(a) of the Department of Energy Organization Act (Pub. L. 95-91, 91 Stat. 565 at 577-578, 42 U.S.C. 7151).

45 FR 14199

§ 140.4 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretations of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

25 FR 2944

§ 140.5 Communications.

Except where otherwise specified in this part, all communications and reports concerning the regulations in this part should be addressed to the Director of Nuclear Reactor Regulation, or Director of Nuclear Material Safety and Safeguards, as appropriate, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Communications and reports may be delivered in person at the Commission's offices at 1717 H Street NW., Washington, D.C., or at 7920 Norfolk Avenue, Bethesda, Md.

§ 140.6 Reports.

(a) In the event of bodily injury or property damage arising out of or in connection with the possession or use of the radioactive material at the location or in the course of transportation or in the event any claim is made therefor, written notice containing particulars sufficient to identify the licensee and reasonably obtainable information with respect to the time, place, and circumstances thereof, or the nature of the claim shall be furnished by or for the licensee to the Director of Nuclear Reactor Regulation, or Director of Nuclear Material Safety and Safeguards, as appropriate, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 as promptly as practicable. The terms "the radioac-

42 FR 46

tive material", "the location", and "in the course of transportation" as used in this section shall have the meanings defined in the applicable indemnity agreement between the licensee and the Commission.

(b) The Commission may require any person subject to this part to keep such records and furnish such reports to the Commission as the Commission deems necessary for the administration of the regulations in this part.

§ 140.7 Fees.

(a) Each reactor licensee shall pay a fee to the Commission based on the following schedule:

(1) For indemnification from $500 million to $400 million inclusive, a fee of $30 per year per thousand kilowatts of thermal capacity authorized in the license;

(2) For indemnification from $399 million to $300 million inclusive, a fee of $24 per year per thousand kilowatts of thermal capacity authorized in the license;

(3) For indemnification from $299 million to $200 million inclusive, a fee of $18 per year per thousand kilowatts of thermal capacity authorized in the license;

(4) For indemnification from $199 million to $100 million inclusive, a fee of $12 per year per thousand kilowatts of thermal capacity authorized in the license;

(5) For indemnification from $99 million to $1 million inclusive, a fee of $6 per year per thousand kilowatts of thermal capacity authorized in the license.

Provided, however, That no fee shall be less than $100 per annum for any nuclear reactor. Such fee shall be due for the period beginning with the date on which the applicable indemnity agreement is effective and shall be paid in accordance with billing instructions received from the Commission. The various levels of indemnity fees are set forth in the schedule in this paragraph. The amount of indemnification for determining indemnity fees will be computed by subtracting from the statutory limit of liability the amount of financial protection required of the licensee. In the case of licensees subject to the provisions of § 140.11(a)(4), this total amount shall be the amount, as determined by the Commission, of the financial protection available to licensees at the close of the calendar year preceding the one in which the fee becomes due. For those instances in which a certified financial statement is provided as a guarantee of payment of deferred premiums in accordance with § 140.21(e), a fee of $1,000 or the indemnity fee, whichever is greater, shall be required.

42 FR 46

(b) Where a licensee manufactures a number of nuclear reactors each having a power level not exceeding 3⅓ megawatts, for sale to others and operates them at the licensee's location temporarily prior to delivery, the licensee shall report to the Commission the maximum number of such reactors to be operated at that location at any one time. In such cases, the fee shall equal $100 multiplied by the number of reactors reported by the licensee. In the event the number of reactors operated at any one time exceed the estimate so reported, the licensee shall report the additional number of reactors to the Commission and additional charges will be made. If experience shows that less than the estimated number of reactors have been operated, appropriate adjustment in subsequent bills will be made by the Commission.

25 FR 2944

(c) Each person licensed to possess and use plutonium in a plutonium processing and fuel fabrication plant shall pay to the Commission a fee of $5,000 per year for indemnification. This fee shasll be due for the period beginning with the date on which the applicable indemnity agreement is effective and shall be paid in accordance with billing instructions received from the Commission.

42 FR 46

NOTE: See page 140-26 for interim fees for Spent Fuel Processing Plants.

§ 140.8 Specific exemptions.

The Commission may, upon application of any interested person or upon its own initiative, grant such exemptions from the requirements of the regulations in this part as it determines are authorized by law and are otherwise in the public interest.

34 FR 19546

§ 140.9 Modification of indemnity agreements.

The Commission will publish in the Federal Register a notice of its intent to enter into an indemnity agreement, or agreement amending an indemnity agreement, which contains provisions different from the form of the applicable indemnity agreement set forth in the appendices to this part, as such appendices may be amended from time to time.

48 FR 1029

§ 140.9a Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150-0039.

(b) The approved information collection requirements contained in this part appear in §§ 140.6, 140.7, 140.15, 140.17, 140.20, 140.21 and 140.22.

49 FR 19623

Subpart B—Provisions Applicable Only to Applicants and Licensees Other Than Federal Agencies and Nonprofit Educational Institutions

25 FR 2944

§ 140.10 Scope.

This subpart applies to applicants for and holders of licenses issued pursuant to Part 50 of this chapter authorizing operation of nuclear reactors, except licenses for the conduct of educational activities issued to, or applied, for by persons found by the Commission to be nonprofit educational institutions and except persons found by the Commission to be Federal agencies. This subpart also applies to persons licensed to possess and use plutonium in a plutonium processing and fuel fabrication plant.

42 FR 46

§ 140.11 Amounts of financial protection for certain reactors.

(a) Each licensee is required to have and maintain financial protection:

(1) In the amount of $1,000,000 for each nuclear reactor he is authorized to operate at a thermal power level not exceeding ten kilowatts;

(2) In the amount of $1,500,000 for each nuclear reactor he is authorized to operate at a thermal power level in excess of ten kilowatts but not in excess of one megawatt;

(3) In the amount of $2,500,000 for each nuclear reactor other than a testing reactor or a reactor licensed under section 104b of the Act which he is authorized to operate at a thermal power level exceeding one megawatt but not in excess of ten megawatts; and

25 FR 2944

(4) In an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan providing for deferred premium charges) for each nuclear reactor which is licensed to operate and which is designed for the production of electrical energy and has a rated capacity of 100,000 electrical kilowatts or more: *Provided, however,* That under such a plan for deferred premium charged for each nuclear reactor which is licensed to operate, no more than $5 million with respect to any nuclear incident and no more than $10 million within one calendar year shall be charged.

44 FR 20632

(b) In any case where a person is authorized pursuant to Part 50 of this chapter to operate two or more nuclear reactors at the same location, the total primary financial protection required of the licensee for all such reactors is the highest amount which would otherwise be required for any one of those reactors: *Provided*, That such primary financial protection covers all reactors at the location.

42 FR 46

§ 140.12 Amount of financial protection required for other reactors.

(a) Each licensee is required to have and maintain financial protection for each nuclear reactor for which the amount of financial protection is not determined in § 140.11, in an amount determined pursuant to the formula and other provisions of this section: *Provided*, That in no event shall the amount of financial protection required for any nuclear reactor under this section be less than $4,500,000 or more than $74,000,000.

(b)(1) The formula is:

x = B times P.

(2) In the formula:

x = Amount of financial protection in dollars.
B = Base amount of financial protection.
P = Population factor.

(3) The base amount of financial protection is equal to $185 times the maximum power level, expressed in thermal kilowatts, as authorized by the applicable license.

32 FR 8124

(4) The population factor (P) shall be determined as follows:

(i) *Step 1.* The area to be considered includes all minor civil divisions (as shown in the 1950 Census of Population, Bureau of the Census, or later data available from the Bureau) which are wholly or partly within a circle with the facility at its center and having a radius in miles equal to the square root of the maximum authorized power level in thermal megawatts.

25 FR 2944

(ii) *Step 2.* Identify all minor civil divisions according to the same census which are in whole or in part within the circle determined in Step 1. Determine the population of each such minor civil division (according to the same census or later data available from the Bureau of the Census). For each minor civil division, divide its population by the square of the estimated distance to the nearest mile from the reactor to the geographic center of the minor civil division: *Provided*, That no such distance shall be deemed to be less than one mile. If the sum of the quotients thus obtained for all minor civil divisions wholly or partly within the circle is 1,000 or less, the population factor is 1. If the sum of these quotients is more than 1,000 but not more than 3,000, the population factor is 1.2. If the sum of these quotients is more than 3,000 but not more than 5,000, the population factor is 1.4. If the sum of these quotients is more than 5,000 but not more than 7,000, the population factor is 1.6. If the sum of these quotients is more than 7,000 but not more than 9,000, the population factor is 1.8. If the sum of these quotients is more than 9,000 the population factor is 2.0.

26 FR 1396

(c) In any case where a person is authorized pursuant to Part 50 of this chapter to operate two or more nuclear reactors at the same location, the total financial protection required of the licensee for all such reactors is the highest amount which would otherwise be required for any one of those reactors: *Provided*, That such financial protection covers all reactors at the location.

(d) Except in cases where the amount of financial protection calculated under this section is a multiple of $100,000, amounts determined pursuant to this section shall be adjusted to the next highest multiple of $100,000.

25 FR 2944

§ 140.13 Amount of financial protection required of certain holders of construction permits.

Each holder of a construction permit under Part 50 of this chapter authorizing construction of a nuclear reactor, who is also the holder of a license under Part 70 of this chapter authorizing ownership possession and storage only of special nuclear material at the site of the nuclear reactor for use as fuel in operation of the nuclear reactor after issuance of an operating license under Part 50 of this chapter, shall (during the period prior to issuance of the license authorizing operation of the reactor) have and maintain financial protection in the amount of $1,000,000. Proof of financial protection shall be filed with the Commission in the manner specified in § 140.15 prior to issuance of the license under Part 70 of this chapter.

32 FR 2562

§ 140.13a Amount of financial protection required for plutonium processing and fuel fabrication plants.

42 FR 46

(a) Each holder of a license issued pursuant to Part 70 of this chapter to possess and use plutonium at a plutonium processing and fuel fabrication plant is required to have and maintain financial protection in the form specified in § 140.14 in the amount of $160,000,000. Proof of financial protection shall be filed with the Commission in the manner in § 140.15 prior to issuance of the license under Part 70 of this chapter.

44 FR 20632

(b) In any case, when a person is authorized pursuant to Part 70 of this chapter to possess and use plutonium at two or more plutonium processing and fuel fabrication plants at the same location, the total financial protection required of the licensee for all such plants is the highest amount which would otherwise be required for any one of those plants: *Provided, however*, That such financial protection covers all such plants at the location.

42 FR 46

NOTE: See page 140-26 for interim financial protection for Spent Fuel Processing Plants.

§ 140.14 Types of financial protection.

(a) The amounts of financial protection required under this part may be furnished and maintained in the form of:

(1) An effective policy of liability insurance from private sources; or

25 FR 2944

(2) Adequate resources to provide the financial protection required by § 140.11, § 140.12; § 140.13 or § 140.13a; or

42 FR 46

(3) Such other type of financial protection as the Commission may approve; or

(4) Any combination of the foregoing.

(b) In any case where the Commission has approved proof of financial protection filed by a licensee the licensee shall not substitute one type of financial protection for another type without first obtaining the written approval of the Commission.

25 FR 2944

§ 140.15 Proof of financial protection.

(a)(1) Licensees who maintain financial protection in whole or in part in the form of liability insurance shall provide proof of financial protection that consists of a copy of the liability policy (or policies) together with a certificate by the insurers issuing the policy stating that the copy is a true copy of the currently effective policy issued to the licensee. The licensee may furnish proof of financial protection in the form of the nuclear energy liability insurance policy set forth in § 140.91 or in any other form acceptable to the Commission.

49 FR 11146

(2) Such proof may alternatively, consist of a copy of the declarations page of a nuclear energy liability policy in the form set forth in § 140.91 and issued to the licensee: *Provided*, That such policy form has been filed by the insurers with the Commission. The declarations page shall be accompanied by a certificate by the insurers stating that said copy is a true copy of the declarations page of a currently effective policy and identifying the policy (including endorsements) by reference to the policy form which has been filed by them with the Commission.

33 FR 15998

(3) The Commission will accept any other form of nuclear energy liability insurance as proof of financial protection if it determines that the provisions of such insurance provide financial protection under the requirements of the Commission's regulations and the Act.

(b) Proof of financial protection in the case of licensees who maintain financial protection in whole or in part in the form specified in § 140.14(a)(2) shall consist of a showing that the licensee clearly has adequate resources to provide the financial protection required under this part. For this purpose the applicant or licensee shall file with the Commission:

(1) Annual financial statements for the three complete calendar or fiscal years preceding the date of filing, together with an opinion thereon by a certified public accountant. The financial statements shall include balance sheets, operating statements and such supporting schedules as may be needed for interpretation of the balance sheets and operating statements.

(2) If the most recent statements required under paragraph (b)(1) of this section have been prepared as of a date more than 90 days prior to the date of filing, similar financial statements, prepared as of a date not more than 90 days prior to the date of filing, should be included. These statements need not be reviewed by a certified public accountant.

25 FR 2944

(c) The Commission may require any licensee to file with the Commission such additional proof of financial protection or other financial information as the Commission determines to be appropriate for the purpose of determining whether the licensee is maintaining financial protection as required under this part.

(d) Proof of financial protection shall be subject to the approval of the Commission.

(e) The licensee shall promptly notify the Commission of any material change in proof of financial protection or in other financial information filed with the Commission under this part.

§ 140.16 Commission review of proof of financial protection.

The Commission will review proof of financial protection filed by any licensee or applicant for license. If the Commission finds that the licensee or applicant for license is maintaining financial protection in accordance with the requirements of this part, approval of the financial protection will be evidenced by incorporation of appropriate provision in the license.

§ 140.17 Special provisions applicable to licensees furnishing financial protection in whole or in part in the form of liability insurance.

In any case where a licensee undertakes to maintain financial protection in the form of liability insurance for all or part of the financial protection required by this part,

(a) The Commission may require proof that the organization or organizations which have issued such policies are legally authorized to issue them and do business in the United States and have clear ability to meet their obligations; and

(b) At least 30 days prior to the termination of any such policy, the licensee shall notify the Commission of the renewal of such policy or shall file other proof of financial protection.

25 FR 2944

§ 140.18 Special provisions applicable to licensees furnishing financial protection in whole or in part in the form of adequate resources.

In any case where a licensee undertakes to maintain financial protection in the form specified in § 140.14(a)(2) for all or part of the financial protection required by this part, the Commission may require such licensee to file with the Commission such financial information as the Commission determines to be appropriate for the purpose of determining whether the licensee is maintaining financial protection as required by this part. 42 FR 43385

§ 140.19 Failure by licensees to maintain financial protection.

In any case where the Commission finds that the financial protection maintained by a licensee is not adequate to meet the requirements of this part, the Commission may suspend or revoke the license or may issue such order with respect to licensed activities as the Commission determines to be appropriate or necessary in order to carry out the provisions of this part and of section 170 of the Act. 25 FR 2944

§ 140.20 Indemnity agreements and liens.

(a) The Commission will execute and issue agreements of indemnity pursuant to the regulations in this part or such other regulations as may be issued by the Commission. Such agreements, as to any licensee, shall be effective on: 42 FR 46

(1)(i) The effective date of the license (issued pursuant to Part 50 of this chapter) authorizing the licensee to operate the nuclear reactor involved; or (ii) the effective date of the license (issued pursuant to Part 70 of this chapter) authorizing the licensee to possess and store special nuclear material at the site of the nuclear reactor for use as fuel in operation of the nuclear reactor after issuance of an operating license for the reactor, whichever is earlier. No such agreement, however, shall be effective prior to September 26, 1957; or

(2) August 1, 1977 or the effective date of the license (issued pursuant to Part 70 of this chapter) authorizing the licensee to possess and use plutonium at the site of the plutonium processing and fuel fabrication plant for processing in that plant, whichever date is later.

(b) If the licensee fails to pay assessed deferred premiums, the Commission reserves the right to pay those premiums on behalf of the licensee and to recover the amount of such premiums from the licensee.

(c) The Commission shall require the immediate submission of financial statements by those licensees who indicate, after an assessment of the retrospective premium by the insurance pools, that they will not pay the assessment. Such financial statements shall include, as a minimum, exhibits indicating internally generated funds from operations and accumulated retained earnings. Subsequent submission of financial statements by such licensees may be requested by the Commission, as required. 42 FR 46

(d) If premiums are paid by the Commission as provided in paragraph (b) of this section, payment by the Commission shall create a lien in the amount paid in favor of the United States upon all property and rights to property, whether real or personal, belonging to such licensee. The lien shall arise at the time payment is made by the Commission and shall continue until the liability for the amount (or a judgment against the licensee arising out of such liability) is satisfied or becomes unenforceable. The Commission will issue a certificate of release of any such lien if it finds that the liability for the amount has been fully satisfied or has become legally unenforceable.

(e) If the Commission determines that the licensee is financially able to reimburse the Commission for a deferred premium payment made in its behalf, and the licensee, after notice of such determination by the Commission fails to make such reimbursement within 120 days, the Commission will take appropriate steps to suspend the license for 30 days. The Commission may take such further action as is necessary if reimbursement is not made within the 30-day suspension period including but not limited to termination of the operating license.

(f)(1)(i) The general form of indemnity agreement to be entered into by the Commission with reactor licensees who furnish financial protection in the form of the nuclear energy liability insurance policy set forth in Appendix A is contained in § 140.92, Appendix B. The general form of indemnity agreement to be entered into by the Commission with reactor licensees who furnish financial protection in the form specified in § 140.14(a)(2) is set forth in § 140.93, Appendix C.

(ii) The general form of indemnity agreement to be entered into by the Commission with persons licensed to possess and use plutonium in a plutonium processing and fuel fabrication plant and who furnish financial protection in the form of the nuclear energy liability insurance policy set forth in Appendix A[2] is contained in § 140.407, Appendix G. The general form of indemnity agreement to be entered into by the Commission with such licensees who furnish financial protection in the form specified in § 140.14(a)(2) is set forth in § 140.108, Appendix H. 42 FR 46

(2) The form of indemnity agreement to be entered into by the Commission with any particular licensee under this subpart shall contain such modifications of the applicable form in §§ 140.92, 140.93, 140.107 and 140.108, Appendices B, C, G and H, as are provided for in applicable licenses, regulations or orders of the Commission.

(3) Each licensee who has executed an indemnity agreement under this subpart shall enter into such agreements amending such indemnity agreement as are required by applicable licenses, regulations, or orders of the Commission.

§ 140.21 Licensee guarantees of payment of deferred premiums.

Each licensee required to have and maintain financial protection for each nuclear reactor as determined in § 140.11(a)(4) shall at the issuance of the license and annually, on the anniversary of the date on which the indemnity agreement is effective, provide evidence to the Commission that it maintains one of the following types of guarantee of payment of deferred premiums in an amount of $10 million for each reactor he is licensed to operate:

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[2] The form of the nuclear energy liability insurance policy for these licensees will be the subject of pertinent endorsements after discussion with the insurance pools.

(a) Surety bond,

(b) Letter of credit,

(c) Revolving credit/term loan arrangement,

(d) Maintenance of escrow deposits of government securities,

(e) Annual certified financial statement showing either that a cash flow (i.e., cash available to a company after all operating expenses, taxes, interest charges, and dividends have been paid) can be generated and would be available for payment of retrospective premiums within three (3) months after submission of the statement, or a cash reserve or a combination of cash flow and cash reserve, or

(f) Such other type of guarantee as may be approved by the Commission.

§ 140.22 Commission guarantee and reimbursement agreements.

Each licensee required to have and maintain financial protection for each nuclear reactor as determined in § 140.11(a)(4) shall execute an indemnity agreement with the Commission that provides for the payment by the Commission of deferred premiums not paid by the licensee and reimbursement of the Commission by the licensee. The general forms of agreement to be entered into by the Commission and licensees are set forth in § 140.92, Appendix B and § 140.93, Appendix C.

42 FR 46

Subpart C—Provisions Applicable Only to Federal Agencies

§ 140.51 Scope.

This subpart applies only to persons found by the Commission to be Federal agencies, which have applied for or are holders of licenses issued pursuant to Part 50 of this chapter authorizing operation of nuclear reactors.

NOTE: Federal agencies are not required to furnish financial protection.

25 FR 2944

§ 140.52 Indemnity agreements.

(a) The Commission will execute and issue agreements of indemnity with each Federal agency subject to this subpart pursuant to the regulations as may be issued by the Commission. Such agreements, as to any licensee, shall be effective on:

(1) The effective date of the license (issued pursuant to Part 50 of this chapter) authorizing the licensee to operate the nuclear reactor involved; or

27 FR 2884

(2) The effective date of the license (issued pursuant to Part 70 of this chapter) authorizing the licensee to possess and store special nuclear material at the site of the nuclear reactor for use as fuel in operation of the nuclear reactor after issuance of an operating license for the reactor, whichever is earlier. No such agreement, however, shall be effective prior to September 26, 1957.

25 FR 2944

(b)(1) The general form of indemnity agreement to be entered into with licensees subject to this subpart is contained in § 140.94, *Appendix D.*

(2) The form of indemnity agreement to be entered into by the Commission with any particular licensee under this subpart shall contain such modifications of the form in § 140.94, as are provided for in applicable licenses, regulations or orders of the Commission.

33 FR 15998

(3) Each licensee who has executed an indemnity agreement under this subpart shall enter into such agreements amending such indemnity agreement as are required by applicable licenses, regulations or orders of the Commission.

27 FR 2884

Subpart D—Provisions Applicable Only to Nonprofit Educational Institutions

§ 140.71 Scope.

This subpart applies only to applicants for and holders of licenses issued for the conduct of educational activities to persons found by the Commission to be nonprofit educational institutions, except that this subpart does not apply to Federal agencies.

NOTE: Financial protection is not required with respect to licenses issued for the conduct of educational activities to persons found by the Commission to be non-profit educational institutions.

25 FR 2944

§ 140.72 Indemnity agreements.

(a) The Commission will execute and issue agreements of indemnity with each non-profit educational institution subject to this subpart pursuant to the regulations in this part or such other regulations in this part or such other regulations as may be issued by the Commission. Such agreements, as to any licensee, shall be effective on:

(1) The effective date of the license (issued pursuant to Part 50 of this chapter) authorizing the licensee to operate the nuclear reactor involved; or

(2) The effective date of the license (issued pursuant to Part 70 of this chapter) authorizing the licensee to possess and store special nuclear material at the site of the nuclear reactor for use as fuel in operation of the nuclear reactor after issuance of an operating license for the reactor, whichever is earlier. No such agreement, however, shall be effective prior to September 26, 1957.

25 FR 2944

(b)(1) The general form of indemnity agreement to be entered into with licensees subject to this subpart is contained in § 140.95, *Appendix E.*

(2) The form of indemnity agreement to be entered into by the Commission with any particular licensee under this subpart shall contain such modifications of the form in § 140.95, *Appendix E*, as are provided for in applicable licenses, regulations or orders of the Commission.

33 FR 15998

(3) Each licensee who has executed an indemnity agreement under this subpart shall enter into such agreements amending such indemnity agreement as are required by applicable licenses, regulations or orders of the Commission.

25 FR 2944

Subpart E—Extraordinary Nuclear Occurrences

§ 140.81 Scope and purpose.

(a) *Scope.* This subpart applies to applicants for and holders of licenses authorizing operation of production facilities and utilization facilities, and to other persons indemnified with respect to such facilities.

(b) *Purpose.* One purpose of this subpart is to set forth the criteria which the Commission proposes to follow in order to determine whether there has been an "extraordinary nuclear occurrence." The other purpose is to establish the conditions of the waivers of defenses proposed for incorporation in indemnity agreements and insurance policies or contracts furnished as proof of financial protection.

33 FR 15998

(1) The system is to come into effect only where the discharge or dispersal constitutes a substantial amount of source, special nuclear or byproduct material, or has caused substantial radiation levels offsite. The various limits in present NRC regulations are not appropriate for direct application in the determination of an "extraordinary nuclear occurrence," for they were arrived at with other purposes in mind, and those limits have been set at a level which is conservatively arrived at by incorporating a significant safety factor. Thus, a discharge or dis-

persal which exceeds the limits in NRC regulations, or in license conditions, although possible cause for concern, is not one which would be expected to cause substantial injury or damage unless it exceeds by some significant multiple the appropriate regulatory limit. Accordingly, in arriving at the values in the criteria to be deemed "substantial" it is more appropriate to adopt values separate from NRC health and safety regulations, and, of course, the selection of these values will not in any way affect such regulations. A substantial discharge, for purposes of the criteria, represents a perturbation of the environment which is clearly above that which could be anticipated from the conduct of normal activities. The criteria are intended solely for the purposes of administration of the Commission's statutory responsibilities under Public Law 89-645, and are not intended to indicate a level of discharge or dispersal at which damage to persons or property necessarily will occur, or a level at which damage is likely to occur, or even a level at which some type of protective action is indicated. It should be clearly understood that the criteria in no way establish or indicate that there is a specific threshold of exposure at which biological damage from radiation will take place. It cannot be emphasized too frequently that the levels set to be used as criteria for the first part of the determination, that is, the criteria for amounts offsite or radiation levels offsite which are substantial, are not meant to indicate that, because such amounts or levels are determined to be substantial for purposes of administration, they are "substantial" in terms of their propensity for causing injury or damage.

(2) It is the purpose of the second part of the determination that the Commission decide whether there have in fact been or will probably be substantial damages to persons offsite or property offsite. The criteria for substantial damages were formulated, and the numerical values selected, on a wholly different basis from that on which the criteria used for the first part of the determination with respect to substantial discharge were derived. The only interrelation between the values selected for the discharge criteria and the damage criteria is that the discharge values are set so low that it is extremely unlikely the damage criteria could be satisfied unless the discharge values have been exceeded.

(3) The first part of the test is designed so that the Commission can assure itself that something exceptional has occurred; that something untoward and unexpected has in fact taken place and that this event is of sufficient significance to raise the possibility that some damage to persons or property offsite has resulted or may result. If there appears to be no damage, the waivers will not apply because the Commission will be unable, under the second part of the test, to make a determination that "substantial damages" have resulted or will probably result. If damages have resulted or will probably result, they could vary from de minimis to serious, and the waivers will not apply until the damages, both actual and probable, are determined to be "substantial" within the second part of the test.

(4) The presence or absence of an extraordinary nuclear occurrence determination does not concomitantly determine whether or not a particular claimant will recover on his claim. In effect, it is intended primarily to determine whether certain potential obstacles to recovery are to be removed from the route the claimant would ordinarily follow to seek compensation for his injury or damage. If there has not been an extraordinary nuclear occurrence determination, the claimant must proceed (in the absence of settlement) with a tort action subject to whatever issues must be met, and whatever defenses are available to the defendant, under the law applicable in the relevant jurisdiction. If there has been an extraordinary nuclear occurrence determination, the claimant must still proceed (in the absence of settlement) with a tort action, but the claimant's burden is substantially eased by the elimination of certain issues which may be involved and certain defenses which may be available to the defendant. In either case the defendant may defend with respect to such of the following matters as are in issue in any given claim: The nature of the claimant's alleged damages, the causal relationship between the event and the alleged damages, and the amount of the alleged damages.

§ 140.82 Procedures.

(a) The Commission may initiate, on its own motion, the making of a determination as to whether or not there has been an extraordinary nuclear occurrence. In the event the Commission does not so initiate the making of a determination, any affected person, or any licensee or person with whom an indemnity agreement is executed or a person providing financial protection may petition the Commission for a determination of whether or not there has been an extraordinary nuclear occurrence. If the Commission does not have, or does not expect to have, within 7 days after it has received notification of an alleged event, enough information available to make a determination that there has been an extraordinary nuclear occurrence, the Commission will publish a notice in the FEDERAL REGISTER setting forth the date and place of the alleged event and requesting any persons having knowledge thereof to submit their information to the Commission.

(b) When a procedure is initiated under paragraph (a) of this section, the Commission will designate members of the principal staff to begin immediately to assemble the relevant information and prepare a report on which the Commission can make its determination.

§ 140.83 Determination of extraordinary nuclear occurrence.

If the Commission determines that both of the criteria set forth in §§ 140.84 and 140.85 have been met, it will make the determination that there has been an extraordinary nuclear occurrence. If the Commission publishes a notice in the FEDERAL REGISTER in accordance with § 140.82(a) and does not make a determination within 90 days thereafter that there has been an extraordinary nuclear occurrence, the alleged event will be deemed not to be an extraordinary nuclear occurrence. The time for the making of a determination may be extended by the Commission by notice published in the FEDERAL REGISTER.

§ 140.84 Criterion I—Substantial discharge of radioactive material or substantial radiation levels offsite.

The Commission will determine that there has been a substantial discharge or dispersal of radioactive material offsite, or that there have been substantial levels of radiation offsite, when, as a result of an event comprised of one or more related happenings, radioactive material is released from its intended place of confinement or radiation levels occur offsite and either of the following findings are also made:

(a) The Commission finds that one or more persons offsite were, could have been, or might be exposed to radiation or to radioactive material, resulting in a dose or in a projected dose in excess of one of the levels in the following table:

TOTAL PROJECTED RADIATION DOSES

Critical organ	*Dose (rems)*
Thyroid	30
Whole body	20
Bone Marrow	20
Skin	60
Other organs or tissues	30

Exposures from the following types of sources of radiation shall be included:

(1) Radiation from sources external to the body;

(2) Radioactive material that may be taken into the body from its occurrence in air or water; and

(3) Radioactive material that may be taken into the body from its occurrence in food or on terrestrial surfaces.

(b) The Commission finds that—

(1) Surface contamination of at least a total of any 100 square meters of offsite property has occurred as the result of a release of radioactive material from a production or utilization facility or device[1] and such contamination is characterized by levels of radiation in excess of one of the values listed in column 1 or column 2 of the following table, or

(2) Surface contamination of any offsite property has occurred as the result of a release of radioactive material in the course of transportation and such contamination is characterized by levels

of radiation in excess of one of the values listed in column 2 of the following table:

TOTAL SURFACE CONTAMINATION LEVELS [1]

Type of emitter	Column 1 Offsite property, contiguous to site, owned or leased by person with whom an indemnity agreement is executed	Column 2 Other offsite property
Alpha emission from transuranic isotopes.	3.5 microcuries per square meter.	0.35 microcuries per square meter.
Alpha emission from isotopes other than transuranic isotopes.	35 microcuries per square meter.	3.5 microcuries per square meter.
Beta or gamma emission.	40 millirads/hour @ 1 cm. (measured through not more than 7 milligrams per square centimeter of total absorber).	4 millirads/hour @ 1 cm. (measured through not more than 7 milligrams per square centimeter of total absorber).

[1] The maximum levels (above background), observed or projected, 8 or more hours after initial deposition.

49 FR 11146

§ 140.85 Criterion II—Substantial damages to persons offsite or property offsite.

(a) After the Commission has determined that an event has satisfied Criterion I, the Commission will determine that the event has resulted or will probably result in substantial damages to persons offsite or property offsite if any of the following findings are made:

(1) The Commission finds that such event has resulted in the death or hospitalization, within 30 days of the event, of five or more people located offsite showing objective clinical evidence of physical injury from exposure to the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material; or

(2) The Commission finds that $2,500,000 or more of damage offsite has been or will probably be sustained by any one person, or $5 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such event; or

(3) The Commission finds that $5,000 or more of damage offsite has been or will probably be sustained by each of 50 or more persons, provided that $1 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such event.

(b) As used in subparagraphs (2) and (3) of paragraph (a) of this section, "damage" shall be that arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material, and shall be based upon estimates of one or more of the following:

(1) Total cost necessary to put affected property back into use,

(2) Loss of use of affected property,

(3) Value of affected property where not practical to restore to use,

(4) Financial loss resulting from protective actions appropriate to reduce or avoid exposure to radiation or to radioactive materials.

33 FR 15998

§ 140.91 Appendix A—Form of nuclear energy liability policy for facilities.

While the text of the policy which follows is exemplary of a contract acceptable to the Commission as evidence of the financial protection required of the licensee by section 170 of the Atomic Energy Act of 1954, as amended, variations on this text submitted by the licensee also will be considered by the Commission in determining whether the licensee meets the financial protection requirements of the Act. The full text of the policy is published solely for the purpose of completeness. Publication of this text should not be construed as a Commission endorsement of any particular provision pertaining solely to the business relationship between the insurers and the insureds or to any other matter not within the Commission's statutory jurisdiction under the Atomic Energy Act.

49 FR 11146

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

Waiver of Defenses Endorsement

(Extraordinary Nuclear Occurrence)

The named insured, acting for himself and every other insured under the policy, and the members of ________________________ agree as follows:

1. With respect to any extraordinary nuclear occurrence to which the policy applies as proof of financial protection and which—

(a) Arises out of or results from or occurs in the course of the construction, possession, or operation of the facility, or

(b) Arises out of or results from or occurs in the course of the transportation of nuclear material to or from the facility,

the insureds and the companies agree to waive

(1) Any issue or defense as to the conduct of the claimant or the fault of the insureds, including, but not limited to:

(i) Negligence,

(ii) Contributory negligence,

(iii) Assumption of risk, and

(iv) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God,

(2) Any issue or defense as to charitable or governmental immunity, and

(3) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his bodily injury or property damage and the cause thereof, but in no

25 FR 2948

Coverage B—Damage to property of an insured away from the facility. With respect to property damage caused by the nuclear energy hazard to property of an insured which is away from the facility, to pay to such insured those sums which such insured would have been legally obligated to pay as damages therefor, had such property belonged to another.

Coverage C—Subrogation—Offsite employees. With respect to bodily injury sustained by any employee of an insured and caused by the nuclear energy hazard, to pay to the workmen's compensation carrier of such insured all sums which such carrier would have been entitled to recover and retain as damages from another person or organization, had such person or organization alone been legally responsible for such bodily injury, by reason of the rights acquired by subrogation by the payment of the benefits required of such carrier under the applicable workmen's compensation or occupational disease law. An employer who is a duly qualified self-insurer under such law shall be deemed to be a workmen's compensation carrier within the meaning of this coverage. This Coverage C does not apply to bodily injury sustained by any person who is employed at and in connection with the facility. This Coverage C shall not constitute workmen's compensation insurance as required under the laws of any state.

II. *Definition of insured.* The unqualified word "insured" includes (a) the named insured and (b) any other person or organization with respect to his legal responsibility for damages because of bodily injury or property damage caused by the nuclear energy hazard.

Subdivision (b) above does not include as an insured the United States of America or any of its agencies.

Subject to Condition 3 and the other provisions of this policy, the insurance applies separately to each insured against whom claim is made or suit is brought.

III. *Definitions.* Wherever used in this policy:

"Bodily injury" means bodily injury, sickness or disease, including death resulting therefrom, sustained by any person;

"Property damage" means physical injury to or destruction or radioactive contamination of property, and loss of use of property so injured, destroyed or contaminated, and loss of use of property while evacuated or withdrawn from use because possibly so contaminated or because of imminent danger of such contamination;

"Nuclear material" means source material, special nuclear material or byproduct material;

"Source material," "special nuclear material," and "byproduct material" have the meanings given them in the Atomic Energy Act of 1954, or in any law amendatory thereof;

25 FR 2948

"Spent fuel" means any fuel element or fuel component, solid or liquid, which has been used or exposed to radiation in any nuclear reactor;

"Waste" means any waste material (1) containing byproduct material and (2) resulting from the operation by any person or organization of any nuclear facility included within the definition of nuclear facility under paragraph (1) or (2) thereof;

"The facility" means the facility described in the declarations and includes the location designated in Item 3 of the declarations and all property and operations at such location;

"Nuclear facility" means "the facility" as defined in any Nuclear Energy Liability Policy (Facility Form) issued by the companies or by ______________________________________.

The term "nuclear facility" also means

(1) Any nuclear reactor,

(2) Any equipment or device designed or used for (a) separating the isotopes of uranium or plutonium, (b) processing or utilizing spent fuel, or (c) handling, processing or packaging waste,

(3) Any equipment or device used for the processing, fabricating or alloying of special nuclear material if at any time the total amount of such material in the custody of the insured at the premises where such equipment or device is located consists of or contains more than 25 grams of plutonium or uranium 233 or any combination thereof, or more than 250 grams of uranium 235,

(4) Any structure, basin, excavation, premises or place prepared or used for the storage or disposal of waste,

and includes the site on which any of the foregoing is located, all operations conducted on such site and all premises used for such operations;

"Indemnified nuclear facility" means

(1) "The facility" as defined in any Nuclear Energy Liability Policy (Facility Form) issued by the companies or by ____,

(next page is 140-8a)

) Any other nuclear facility,

ancial protection is required pursuant to
Atomic Energy Act of 1954, or any law
ndatory thereof, with respect to any
ities or operations conducted thereat;
uclear reactor" means any apparatus de-
d or used to sustain nuclear fission in
f-supporting chain reaction or to con-
a critical mass of fissionable material;
uclear energy hazard" means the radio-
e, toxic, explosive or other hazardous
rties of nuclear material, but only if
The nuclear material is at the facility
as been discharged or dispersed there-
without intent to relinquish possession
stody thereof to any person or organiza-
or

The nuclear material is in an insured
nent which is (a) in the course of trans-
tion, including handling and temporary
ge incidental thereto, within the terri-
l limits of the United States of America,
rritories or possessions, Puerto Rico or
Canal Zone and (b) away from any

other nuclear facility;

"Insured shipment" means a shipment of source material, special nuclear material, spent fuel or waste, herein called "material," (1) to the facility from a nuclear facility owned by the United States of America, but only if the transportation of the material is not by predetermination to be interrupted by the removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location except an indemnified nuclear facility, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

IV. *Application of policy*. This policy applies only to bodily injury or property damage (1) which is caused during the policy period by the nuclear energy hazard and (2) which is discovered and for which written claim is made against the insured, not later than two years after the end of the policy period.

EXCLUSIONS

This policy does not apply:

(a) To any obligation for which the insured or any carrier as his insurer may be held liable under any workmen's compensation, unemployment compensation or disability benefits law, or under any similar law;

(b) Except with respect to liability of another assumed by the insured under contract, to bodily injury to any employee of the insured arising out of and in the course of his employment by the insured; but this exclusion does not apply to bodily injury to any person who is not employed at and in connection with the facility if the insured has complied with the requirements of the applicable workmen's compensation or occupational disease law respecting the securing of compensation benefits thereunder to his employees;

(c) To liability assumed by the insured under contract, other than an assumption in a contract with another of the liability of any person or organization which would be imposed by law on such person or organization in the absence of an express assumption of liability;

(d) To bodily injury or property damage due to the manufacturing, handling or use at the location designated in Item 3 of the declarations, in time of peace or war, of any nuclear weapon or other instrument of war utilizing special nuclear material or byproduct material;

(e) To bodily injury or property damage due to war, whether or not declared, civil war, insurrection, rebellion or revolution, or to any act or conditions incident to any of the foregoing;

(f) To property damage to any property at the location designated in Item 3 of the declarations, other than aircraft, watercraft or vehicles licensed for highway use, provided such aircraft, watercraft or vehicles are not used in connection with the operation of the facility;

(g) To property damage to nuclear material in the course of transportation to or from the facility including handling or storage incidental thereto;

(h) Under Coverage B, to property damage due to neglect of the insured to use all reasonable means to save and preserve the property after knowledge of the occurrence resulting in such property damage.

25 FR 2948

CONDITIONS

1. *Premium*. (1) Definitions. With reference to the premium for this policy: "advance premium", for any calendar year, is the estimated standard premium for that calendar year;

"Standard premium", for any calendar year, is the premium for that calendar year computed in accordance with the companies' rules, rates, rating plans (other than the Industry Credit Rating Plan), premiums and minimum premiums applicable to this insurance;

"Reserve premium" means that portion of the standard premium paid to the companies and specifically allocated under the Industry Credit Rating Plan for incurred losses. The amount of the "reserve premium" for this policy for any calendar year during which this policy is in force is the amount designated as such in the Standard Premium Endorsement for that calendar year;

"Industry reserve premium", for any calendar year, is the sum of the reserve premiums for that calendar year for all Nuclear Energy Liability Policies issued by the Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters and subject to the Industry Credit Rating Plan;

"Policy refund ratio", for any calendar year, is the ratio of the named insured's reserve premium for that calendar year to the industry reserve premium for that calendar year;

"Incurred losses" means the sum of:

(1) All losses and expenses by Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters, and

(2) All reserves for unpaid losses and expenses as estimated by Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters because of obligations assumed and the expenses incurred in connection with such obligations by members of Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters under all Nuclear Energy Liability Policies issued by Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters and subject to the Industry Credit Rating Plan;

28 FR 7077

"Reserve for refunds", at the end of any calendar year, is the amount by which (1) the sum of all industry reserve premiums for the period from January 1, 1957 through the end of such calendar year exceeds (2) the total for the same period of (a) all incurred losses, valued as of the next following July 1, and (b) all reserve premium refunds made under the Industry Credit Rating Plan by members of Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters;

"Industry reserve premium refund", for any calendar year, is determined by multiplying the reserve for refunds at the end of the ninth calendar year thereafter by the ratio of the industry reserve premium for the calendar year for which the premium refund is being determined to the sum of such amount and the total industry reserve premiums for the next nine calendar years thereafter, provided that the industry reserve premium refund for any calendar year shall in no event be greater than the industry reserve premium for such calendar year.

(2) *Payment of advance and standard premiums*. The named insured shall pay the companies the advance premium stated in the declarations, for the period from the effective date of this policy through December, 31 following. Thereafter, at the beginning of each calendar year while this policy is in force, the named insured shall pay the advance premium for such year to the companies. The advance premium for each calendar year shall be stated in the Advance Premium Endorsement for such calendar year issued to the named insured as soon as practicable prior to or after the beginning of such year.

As soon as practicable after each December 31 and after the termination of this policy, the standard premium for the preceding calendar year shall be finally determined and stated in the Standard Premium Endorsement for that calendar year. If the standard premium so determined exceeds the advance premium previously paid for such calendar year, the named insured shall pay the excess to the companies; if less, the companies shall return to the named insured the excess portion paid by such insured.

The named insured shall maintain records of the information necessary for premium computation and shall send copies of such records to the companies as directed, at the end of each calendar year, at the end of the policy period and at such other times during the policy period as the companies may direct.

(3) *Use of reserve premiums*. All reserve premiums paid or payable for this policy may be used by the members of Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters to discharge their obligation with respect to incurred losses whether such losses are incurred under this policy or under any other policy issued by the Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters.

(4) *Reserve premium refunds*. A portion of the reserve premium for this policy for the first calendar year of any group of ten consecutive calendar years shall be returnable to the named insured provided there is a reserve for refunds at the end of the tenth calendar year.

(5) *Computation of reserve premium refunds*. The reserve premium refund due the named insured for any calendar year shall be determined by multiplying any industry reserve premium refund for such calendar year by the policy refund ratio for such calendar year. The reserve premium refund for any calendar year shall be finally determined as soon as practicable after July 1 of the tenth calendar year thereafter.

(6) *Final premium*. The final premium for this policy shall be the sum of the standard premiums for each calendar year, or portion thereof, during which this policy remains in force less the sum of all refunds of reserve premiums due the named insured under the provisions of this Condition 1.

(7) *Reserve premium refund agreement*. Each member of Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters subscribing this policy for any calendar year, or portion thereof, thereby agrees for itself, severally and not jointly, and in the respective proportion of its liability assumed under this policy for that calendar year, to return to the named insured that portion of any reserve premium refund due the named insured for that calendar year, determined in accordance with the provisions of this Condition 1.

28 FR 7077

2. *Inspection; suspension*. The companies shall be permitted to inspect the facility and to examine the insured's books and records at any time, as far as they relate to the subject-matter of this insurance.

If a representative of the companies discovers a condition which he believes to be unduly dangerous with respect to the nuclear energy hazard, a representative of the companies may request that such condition be corrected without delay. In the event of noncompliance with such request, a representative of the companies may, by notice to the named insured, to any other person or organization considered by the companies to be responsible for the continuance of such dangerous condition, and to the United States Nuclear Regulatory Commission, suspend the insurance with respect to the named insured and such other person or organization effective 12:00 midnight of the next business day of such Commission following the date that such Commission receives such

25 FR 2948

notice. The period of such suspension shall terminate as of the time stated in a written notice from the companies to the named insured and to each such person or organization that such condition has been corrected.

3. *Limit of liability; termination of policy upon exhaustion of limit.* Regardless of the number of persons and organizations who are insureds under this policy, and regardless of the number of claims made and suits brought against any or all insureds because of one or more occurrences resulting in bodily injury or property damage caused during the policy period by the nuclear energy hazard, the limit of the companies' liability stated in the declarations is the total liability of the companies for their obligations under this policy and the expenses incurred by the companies in connection with such obligations, including.

(a) Payments in settlement of claims and in satisfaction of judgments against the insureds for damages because of bodily injury or property damage, payments made under parts (2), (3) and (4) of Coverage A and payments made in settlement of claims under Coverages B and C;

(b) Payments for expenses incurred in the investigation, negotiation, settlement and defense of any claim or suit, including, but not limited to, the cost of such services by salaried employees of the companies, fees and expenses of independent adjusters, attorneys' fees and disbursements, expenses for expert testimony, inspection and appraisal of property, examination, X-ray or autopsy or medical expenses of any kind;

(c) Payments for expenses incurred by the companies in investigating an occurrence resulting in bodily injury or property damage or in minimizing its effects.

Each payment made by the companies in discharge of their obligations under this policy or for expenses incurred in connection with such obligations shall reduce by the amount of such payment the limit of the companies' liability under this policy.

25 FR 2948

If, during the policy period or subsequent thereto, the total of such payments made by the companies shall exhaust the limit of the companies' liability under this policy, all liability and obligations of the companies under this policy shall thereupon terminate and shall be conclusively presumed to have been discharged. This policy, if not theretofore canceled, shall thereupon automatically terminate.

Regardless of the number of years this policy shall continue in force and the number of premiums which shall be payable or paid, the limit of the companies' liability stated in the declarations shall not be cumulative from year to year.

4. *Limitation of liability; common occurrence.* Any occurrence or series of occurrences resulting in bodily injury or property damage arising out of the radioactive, toxic, explosive or other hazardous properties of

(a) Nuclear material discharged or dispersed from the facility over a period of days, weeks, months or longer and also arising out of such properties of other nuclear material so discharged or dispersed from one or more other nuclear facilities insured by the companies under a Nuclear Energy Liability Policy (Facility Form), or

(b) Source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under this policy and also arising out of such properties of other source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under one or more other Nuclear Energy Liability Policies (Facility Form) issued by the companies,

shall be deemed to be a common occurrence resulting in bodily injury or property damage caused by the nuclear energy hazard.

With respect to such bodily injury and property damage (1) the total aggregate liability of the companies under all Nuclear Energy Liability Policies (Facility Form), including this policy, applicable to such common occurrence shall be the sum of the limits of liability of all such policies, the limit of liability of each such policy being as determined by Condition 3 thereof, but in no event shall such total aggregate liability of the companies exceed ______ .[1] (2) the total liability of the companies under this policy shall not exceed that proportion of the total aggregate liability of the companies, as stated in clause (1) above, which (a) the limit of liability of this policy, as determined by Condition 3, bears to (b) the sum of the limits of liability of all such policies issued by the companies, the limit of liability of each such policy being as determined by Condition 3, thereof.

The provisions of this condition shall not operate to increase the limit of the companies' liability under this policy.

5. *Notice of occurrence, claim, or suit.* In the event of bodily injury or property damage to which this policy applies or of an occurrence which may give rise to claims therefor, written notice containing particulars sufficient to identify the insured and also reasonably obtainable information with respect to the time, place and circumstances thereof, and the names and addresses of the injured and of available witnesses, shall be given by or for the insured to __________ or the companies as soon as practicable. If claim is made or suit is brought against the insured, he shall immediately forward to __________ or the companies every demand, notice, summons or other process received by him or his representative.

25 FR 2948

6. *Assistance and cooperation of the insured.* The insured shall cooperate with the companies and, upon the companies' request, attend hearings and trials and assist in making settlements, securing and giving evidence, obtaining the attendance of witnesses and in the conduct of any legal proceedings in connection with the subject matter of this insurance. The insured shall not, except at his own cost, make any payment, assume any obligation or incur any expense.

7. *Action against companies—Coverages A and C.* No action shall lie against the companies or any of them unless, as a condition precedent thereto, the insured shall have fully complied with all the terms of this policy, nor until the amount of the insured's obligation to pay shall have been finally determined either by judgment against the insured after actual trial or by written agreement of the insured, the claimant and the companies.

Any person or organization or the legal representative thereof who has secured such judgment or written agreement shall thereafter be entitled to recover under this policy to the extent of the insurance afforded by this policy. No person or organization shall have any right under this policy to join the companies or any of them as parties to any action against the insured to determine the insured's liability, nor shall the companies or any of them be impleaded by the insured or his legal representative. Bankruptcy or insolvency of the insured or of the insured's estate shall not relieve the companies of any of their obligations hereunder.

8. *Action against companies—Coverage B.* No suit or action on this policy for the recovery of any claim for property damage to which Coverage B applies shall be sustainable in any court of law or equity unless all the requirements of this policy shall have been complied with and unless commenced within two years after the occurrence resulting in such property damage.

9. *Insured's duties when loss occurs—Coverage B.* In the event of property damage to which Coverage B applies, the insured shall furnish a complete inventory of the property damage claimed, showing in detail the amount thereof. Within ninety-one days after the occurrence resulting in such property damage, unless such time is extended in writing by the companies, the insured shall render to the companies a proof of loss, signed and sworn to by the insured, stating the knowledge and belief of the insured as to the following: identification of such occurrence; the interest of the insured in the property destroyed or damaged, and the amount of each item of property damage claimed; all encumbrances on such property; and all other contracts of insurance, whether valid or not, covering any of such property. The insured shall include in the proof of loss a copy of all descriptions and schedules in all policies. Upon the companies' request, the insured shall furnish verified plans and specifications of any such property. The insured, as often as may be reasonably required, shall exhibit to any person designated by the companies any of such property, and submit to examinations under oath by any person named by the companies and subscribe the same; and, as often as may be reasonably required, shall produce for examination all books of account, records, bills, invoices and other vouchers, or certified copies thereof if originals be lost, at such reasonable time and place as may be designated by the companies or their representatives, and shall permit extracts and copies thereof to be made.

10. *Appraisal—Coverage B.* In case the insured and the companies shall fail to agree as to the amount of property damage, then, on the written demand of either, each shall select a competent and disinterested appraiser and notify the other of the appraiser selected within twenty days of such demand. The appraisers shall first select a competent and disinterested umpire and, failing for fifteen days to agree upon such umpire, then, on request of the insured or the companies, such umpire shall be selected by a judge of a court of record in the state in which the property is located. The appraisers shall then appraise each item of property damage and, failing to agree, shall submit their differences only to the umpire. An award in writing, so itemized, of any two when filed with the companies shall determine the amount of property damage. Each appraiser shall be paid by the party selecting him and the expenses of the appraisal and umpire shall be paid by the parties equally. The companies shall not be held to have waived any of their rights by any act relating to appraisal.

25 FR 2948

11. *Subrogation.* In the event of any payment under this policy, the companies shall be subrogated to all the insured's rights of recovery therefor against any person or organization, and the insured shall execute and deliver instruments and papers and do whatever else is necessary to secure such rights. Prior to knowledge of bodily injury or property damage caused by the nuclear energy hazard the insured may waive in writing any right of recovery against any person or organization, but after such knowledge the insured shall not waive or otherwise prejudice any such right of recovery.

The companies hereby waive any rights of subrogation acquired against the United States of America or any of its agencies by reason of any payment under this policy.

The companies do not relinquish, by the foregoing provisions, any right to restitution from the insured out of any recoveries made by the insured on account of a loss covered by this policy of any amounts to which the companies would be entitled had such provisions, or any of them, not been included in this policy.

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[1] For policies issued by Nuclear Energy Liability-Property Insurance Association the amount will be "$124,000,000," for policies issued by Mutual Atomic Energy Liability Underwriters, the amount will be "$36,000,000."

44 FR 20632

12. *Other insurance.* If the insurance afforded by this policy for loss or expense is concurrent with insurance afforded for such loss or expense by a Nuclear Energy Liability Policy (Facility Form) issued to the named insured by ---------- hereinafter called "concurrent insurance," the companies shall not be liable under this policy for a greater proportion of such loss or expense than the limit of liability stated in the declarations of this policy bears to the sum of such limit and the limit of liability stated in the declarations of such concurrent policy

If the insured has other valid and collectible insurance (other than such concurrent insurance or any other nuclear energy liability insurance isued by the companies or ---------- to any person or organization) applicable to loss or expense covered by this policy, the insurance afforded by this policy shall be excess insurance over such other insurance; provided, with respect to any person who is not employed at and in connection with the facility, such insurance as is afforded by this policy for bodily injury to an employee of the insured arising out of and in the course of his employment shall be primary insurance under such other insurance.

13. *Changes.* Notice to any agent or knowledge possessed by any agent or by any other person shall not effect a waiver or a change in any part of this policy or estop the companies from asserting any right under the terms of this policy; nor shall the terms of this policy be waived or changed, except by endorsement issued to form a part of this policy executed by ---------- on behalf of the companies.

14. *Assignment.* Assignment of interest by the named insured shall not bind the companies until their consent is endorsed hereon; if, however, the named insured shall die or be declared bankrupt or insolvent, this policy shall cover such insured's legal representative, receiver or trustee as an insured under this policy, but only with respect to his liability as such, and then only provided written notice of his appointment as legal representative, receiver or trustee is given to the companies within ten days after such appointment.

15. *Cancellation.* This policy may be canceled by the named insured by mailing to the companies and the United States Nuclear Regulatory Commission written notice stating when, not less than thirty days thereafter, such cancellation shall be effective. This policy may be canceled by the companies by mailing to the named insured at the address shown in this policy and to the United States Nuclear Regulatory Commission written notice stating when, not less than ninety days thereafter, such cancellation shall be effective; provided in the event of non-payment of premium or if the operator of the facility, as designated in the declarations, is replaced by another person or organization, this policy may be canceled by the companies by mailing to the named insured at the address shown in this policy and to the United States Nuclear Regulatory Commission written notice stating when, not less than thirty days thereafter, such cancellation shall be effective. The mailing of notice as aforesaid shall be sufficient proof of notice. The effective date and hour of cancellation stated in the notice shall become the end of the policy period. Delivery of such written notice either by the named insured or by the companies shall be equivalent to mailing.

Upon termination or cancellation of this policy, other than as of the end of December 31 in any year, the earned premium for the period this policy has been in force since the preceding December 31 shall be computed in accordance with the following provisions:

(a) If this policy is terminated, pursuant to Condition 3, by reason of the exhaustion of the limit of the companies' liability, all premium theretofore paid or payable shall be fully earned;

(b) If the named insured cancels, the earned premium for such period shall be computed in accordance with the customary annual short rate table and procedure, provided if the named insured cancels after knowledge of bodily injury or property damage caused by the nuclear energy hazard, all premiums theretofore paid or payable shall be fully earned;

(c) If the companies cancel, the earned premium for such period shall be computed pro rata.

Premium adjustment, if any, may be made either at the time cancellation is effected or as soon as practicable after cancellation becomes effective, but payment or tender of unearned premium is not a condition of cancellation.

16. *Company representation.* (a) Any notice, sworn statement or proof of loss which may be required by the provisions of this policy may be given to any one of the companies, and such notice, statement or proof of loss so given shall be valid and binding as to all companies.

(b) In any action or suit against the companies, service of process may be made on any one of them, and such service shall be deemed valid and binding service on all companies.

(c) ---------- is the agent of the companies with respect to all matters pertaining to this insurance. All notices or other communications required by this policy to be given to the companies may be given to such agent, at its office at ---------- with the same force and effect as if given directly to the companies. Any requests, demands or agreements made by such agent shall be deemed to have been made directly by the companies.

17. *Authorization of named insured.* Except with respect to compliance with the obligations imposed on the insured by Conditions 5, 6, 7, 8, 9, 10 and 11 of this policy, the named insured is authorized to act for every other insured in all matters pertaining to this insurance.

18. *Changes in subscribing companies and in their proportionate liability.* By acceptance of this policy the named insured agrees that the members of ---------- liable under this policy, and the proportionate liability of each such member, may change from year to year, and further agrees that regardless of such changes:

(1) Each company subscribing this policy upon its issuance shall be liable only for its stated proportion of any obligation assumed or expense incurred under this policy because of bodily injury or property damage caused, during the period from the effective date of this policy to the close of December 31 next following, by the nuclear energy hazard; for each subsequent calendar year, beginning January 1 next following the effective date of this policy, the subscribing companies and the proportionate liability of each such company shall be stated in an endorsement issued to form a part of this policy, duly executed and attested by the ---------- of -------------------------- on behalf of each such company, and mailed or delivered to the named insured;

(2) This policy shall remain continuously in effect from the effective date stated in the declarations until terminated in accordance with Condition 3 or Condition 15;

(3) Neither the liability of any company nor the limit of liability stated in the declarations shall be cumulative from year to year.

19. *Declarations.* By acceptance of this policy the named insured agrees that the statements in the declarations are the agreements and representations of the named insured, that this policy is issued in reliance upon the truth of such representations and that this policy embodies all agreements between the named insured and the companies or any of their agents relating to this insurance.

In Witness Whereof, each of the subscribing companies has caused this policy to be executed and attested on its behalf by the -------- of ---------------------- and duly countersigned on the declarations page by an authorized representative.

For the subscribing companies.

By ----------------------

Subscribing companies *Proportion of 100%*

NUCLEAR ENERGY LIABILITY POLICY NO. ------ (FACILITY FORM)

Declarations

Item 1. Named Insured ----------------

Address --

(No. Street Town or City State)

Item 2. Policy Period: Beginning at 12:01 a.m. on the ------ day of ----------, 19-- and continuing through the effective date of the cancellation or termination of this policy, standard time at the address of the named insured as stated herein.

Item 3. Description of the Facility: Location -- -- -- -- -- --

Type -- -- --

The Operator of the facility is ----------

Item 4. The limit of the companies' liability is $ ------ subject to all the terms of this policy having reference thereto.

Item 5. Advance Premium $-------

Item 6. These declarations and the schedules forming a part hereof give a complete description of the facility, insofar as it relates to the nuclear energy hazard, except as noted -- -- -- --

Date of Issue ----------, 19--

Countersigned by ----------------------

(Authorized representative)

NUCLEAR ENERGY LIABILITY POLICY (FACILITY FORM)

Amendment of Transportation Coverage (Indemnified Nuclear Facility)

It is agreed that the definition of "insured shipment" in Insuring Agreement III is amended to read: "insured shipment" means a shipment of source material, special nuclear material, spent fuel or waste, herein called "material," (1) to the facility from any location except an indemnified nuclear facility, but only if the transportation of the material is not by predetermination to be interrupted by removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

Effective date of this endorsement ---------- to form a part of Policy No. ------

Issued to ----------------------------

Date of Issue ----------------------------

For the subscribing companies.

By --------------------

Countersigned by ----------------------

Endorsement No. -------

25 FR 2948

Optional Amendatory Endorsement

(Facility Form)

It is agreed that:

I. The first sentence of the definition of nuclear facility is amended to read:

"nuclear facility" means "the facility" as defined in any Nuclear Energy Liability Policy

26 FR 6641

(Facility Form) issued by __________ or by __________

II. The definition of "indemnified nuclear facility" is replaced by the following:

"indemnified nuclear facility" means

(1) "the facility" as defined in any Nuclear Energy Liability Policy (Facility Form) issued by __________ or by __________ or

(2) any other nuclear facility,

if financial protection is required pursuant to the Atomic Energy Act of 1954, or any law amendatory thereof; with respect to any activities or operations conducted thereat:

III. Condition 4 is replaced by the following:

Limitation of liability; common occurrence. Any occurrence or series of occurrences resulting in bodily injury or property damage arising out of the radioactive, toxic, explosive, or other hazardous properties of

(a) nuclear material discharged or dispersed from the facility over a period of days, weeks, months or longer and also arising out of such properties of other nuclear material so discharged or dispersed from one or more other nuclear facilities insured under any Nuclear Energy Liability Policy (Facility Form) issued by __________ or,

(b) source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under this policy and also arising out of such properties of other source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under one or more other Nuclear Energy Liability Policies (Facility Form) issued by __________

shall be deemed to be a common occurrence resulting in bodily injury or property damage caused by the nuclear energy hazard.

With respect to such bodily injury and property damage (1) the total aggregate liability of the members of __________ under all Nuclear Energy Liability Policies (Facility Form), including this policy, applicable to such common occurrence shall be the sum of the limits of liability of all such policies, the limit of liability of each such policy being as determined by Condition 3 thereof, but in no event shall such total aggregate liability of such members exceed $______ .[1] (2) the total liability of the companies under this policy shall not exceed that proportion of the total aggregate liability of the members of __________, as stated in clause (1) above, which (a) the limit of liability of this policy, as determined by Condition 3, bears to (b) the sum of the limits of liability of all such policies issued by such members, the limit of liability of each such policy being as determined by Condition 3 thereof.

The provisions of this condition shall not operate to increase the limit of the companies' liability under this policy.

IV. The second paragraph of Condition 12 "Other Insurance" is amended to read:

"If the insured has other valid and collectible insurance (other than such concurrent insurance or any other nuclear energy liability insurance issued by __________ or to any person or organization) applicable to loss or expense covered by this policy, the insurance afforded by this policy shall be excess insurance over such other insurance; provided, with respect to any person who is not employed at and in connection with the facility, such insurance as is afforded by this policy for bodily injury to an employee of the insured arising out of and in the course of his employment shall be primary insurance under such other insurance."

26 FR 6641

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

Restoration of Limit of Liability Endorsement

It is agreed that:

1. Payments made by the companies under this policy have reduced the limit of the companies' liability, stated in Item 4 of the declarations, to $______.

2. Such reduced limit is restored to the amount stated in Item 4 of the declarations. Such restored limit applies to obligations assumed or expenses incurred because of bodily injury or property damage caused during the period from the effective date of this endorsement to the termination of the policy, by the nuclear energy hazard.

29 FR 7710

NOTE: When the reduction of the limit of liability results from a clearly identifiable nuclear event and restoration is offered retroactive to the effective date of the policy for claims other than those resulting from said event, above paragraph 2 will be replaced by the following:

2. Such reduced limit is restored to the amount stated in Item 4 of the declarations, except with respect to bodily injury or property damage resulting from (describe nuclear event).

30 FR 14007

3. The reduced limit of liability stated in paragraph 1 above, and the limit of liability stated in Item 4 of the declarations, as restored by this endorsement, shall not be cumulative; and each payment made by the companies after the effective date of this endorsement for any loss or expense covered by the policy shall reduce by the amount of such payment both the reduced limit of liability stated in paragraph 1 above and the limit of liability stated in Item 4 of the declarations, as restored by this endorsement, regardless of which limit of liability applies with respect to bodily injury or property damage out of which such loss or expense arises.

Effective date of this endorsement ______ to form a part of Policy No. ______.

Issued to __________.

Date of issue __________.

For the subscribing companies

____

By ______________________

Countersigned by ______________________.

Endorsement No. ______.

29 FR 7710

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

Amendatory Endorsement

This policy does not apply to bodily injury or property damage with respect to which the insured is entitled to indemnity from the United States Nuclear Regulatory Commission under the provisions of Indemnity Agreement No. ------ between the United States Nuclear Regulatory Commission and --------, dated --------, as now in effect or as hereafter amended.

• • • • • •

Effective date of this endorsement ______ ---- to form a part of Policy No. ______.

Issued to __________.

Date of issue __________.

For the subscribing companies __________

____

By ______________________

Countersigned by ______________________.

Endorsement No. ______.

29 FR 9529

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

Waiver of Defenses Endorsement

(Extraordinary Nuclear Occurrence)

The named insured, acting for himself and every other insured under the policy, and the members of ______________________ agree as follows:

1. With respect to any extraordinary nuclear occurrence to which the policy applies as proof of financial protection and which—

(a) Arises out of or results from or occurs in the course of the construction, possession, or operation of the facility, or

(b) Arises out of or results from or occurs in the course of the transportation of nuclear material to or from the facility,

the insureds and the companies agree to waive

(1) Any issue or defense as to the conduct of the claimant or the fault of the insureds, including, but not limited to:

(i) Negligence,

(ii) Contributory negligence,

(iii) Assumption of risk, and

(iv) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God,

(2) Any issue or defense as to charitable or governmental immunity, and

(3) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his bodily injury or property damage and the cause thereof, but in no event more than 10 years after the date of the nuclear incident.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action.

2. The waivers set forth in paragraph 1 above do not apply to

(a) Bodily injury or property damage which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(b) Bodily injury sustained by any claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

(c) Any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law.

3. The waivers set forth in paragraph 1 above shall be effective only with respect to bodily injury or property damage to which the policy applies under its terms other than this endorsement.

Such waivers shall not apply to, or prejudice the prosecution or defense of any claim or portion of claim which is not within the protection afforded under—

(1) The provisions of the policy applicable to the financial protection required of the named insured.

(2) The agreement of indemnification between the named insured and the Nuclear Regulatory Commission made pursuant to section 170 of the Atomic Energy Act of 1954, as amended, and

(3) The limit of liability provisions of subsection 170 e. of the Atomic Energy Act of 1954, as amended.

33 FR 15998

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[1] For policies issued by Nuclear Energy Liability-Property Insurance Association the amount will be "$124,000,000," for policies issued by Mutual Atomic Energy Liability Underwriters, the amount will be "$36,000,000."

44 FR 20632

33 FR 15998

Such waivers shall not preclude a defense based upon the failure of the claimant to take reasonable steps to mitigate damages.

4. Subject to all of the limitations stated in this endorsement and in the Atomic Energy Act of 1954, as amended, the waivers set forth in paragraph 1 above shall be judicially enforceable in accordance with their terms against any insured in an action to recover damages because of bodily injury or property damage to which the policy applies as proof of financial protection.

5. As used herein:

"Extraordinary nuclear occurence" means an event which the Nuclear Regulatory Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended. "financial protection" and "nuclear incident" have the meanings given them in the Atomic Energy Act of 1954, as amended.

"Claimant" means the person or organization actually sustaining the bodily injury or property damage and also includes his assignees, legal representatives and other persons or organizations entitled to bring an action for damages on account of such injury or damage.

6. [Deleted 42 FR 20139.]

38 FR 11066

Nuclear Energy Liability Policy

(Facility Form)

Amendatory Endorsement

(Application of Policy)

It is agreed that insuring agreement IV of the policy, captioned "Application of Policy" is amended to read as follows: Application of Policy. This policy applies only to bodily injury or property damage: (1) Which is caused during the policy period by the nuclear energy hazard, and (2) which is discovered and for which written claim is made against the insured, not later than 10 years after the end of the policy period.

42 FR 20139

NUCLEAR ENERGY LIABILITY POLICY

(FACILITY FORM)

Waiver of Defense Endorsement

(Extraordinary Nuclear Occurrence)

The named insured, acting for himself and every other insured under the policy, and the members of ——————————— agree as follows:

1. With respect to any extraordinary nuclear occurrence to which the policy applies as proof of financial protection and which

(a) Arises out of or results from or occurs in the course the construction, possession, or operation of the facility, or

(b) Arises out of or results from or occurs in the course of the transportation of nuclear material to or from the facility.

the insured and the companies agree to waive.

(1) Any issue or defense as to the conduct of the claimant or the fault of the insureds, including but not limited to:

(i) Negligence,

(ii) Contributory negligence,

(iii) Assumption of risk, and

(iv) Unforeseeable intervening causes, whether involving the conduct of a third person, or an act of God,

(2) Any issue or defense as to charitable or governmental immunity, and

(3) Any issue or defense based on any statute of limitations if suit is instituted within three (3) years from the date on which the claimant first knew, or reasonably could have known, of his bodily injury or property damage and the cause thereof, but in no event more than twenty (20) years after the date of the nuclear incident.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action.

2. The waivers set forth in paragraph 1. above do not apply to

(a) Bodily injury or property damage which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(b) Bodily injury sustained by any claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

(c) Any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law.

3. The waivers set forth in paragraph 1. above shall be effective only with respect to bodily injury or property damage to which the policy applies under its terms other than this endorsement; provided, however, that with respect to bodily injury or property damage resulting from an extraordinary nuclear occurrence. Insuring Agreement IV, "Application of Policy," shall not operate to bar coverage for bodily injury or property damage (a) which is caused during the policy period by the nuclear energy hazard and (b) which is discovered and for which written claim is made against the insured not later than twenty (20) years after the date of the extraordinary nuclear occurrence.

42 FR 20139

Such waivers shall not apply to, or prejudice the prosecution or defense of any claim or portion of claim which is not within the protection afforded under

(a) The provisions of the policy applicable to the financial protection required of the named insured;

(b) The agreement of indemnification between the named insured and the Nuclear Regulatory Commission made pursuant to Section 170 of the Atomic Energy Act of 1954, as amended; and

(c) The limit of liability provisions of Subsection 170e. of the Atomic Energy Act of 1954, as amended.

Such waivers shall not preclude a defense based upon the failure of the claimant to take reasonable steps to mitigate damages.

4. Subject to all of the limitations stated in this endorsement and in the Atomic Energy Act of 1954, as amended, the waivers set forth in paragraph 1. above shall be judicially enforceable in accordance with their terms against any insured in an action to recover damages because of bodily injury or property damage to which the policy applies as proof of financial protection.

5. As used herein:

"Extraordinary nuclear occurrence" means an event which the Nuclear Regulatory Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

"Financial protection" and "nuclear incident" have the meanings given them in the Atomic Energy Act of 1954, as amended.

"Claimant" means the person or organization actually sustaining the bodily injury or property damage and also includes his assignees, legal representatives and other persons or organizations entitled to bring an action for damages on account of such injury or damage.

Effective date of this endorsement ——————————— to form a part of Policy No. ————————.

12:01 A.M. Standard Time
Issued to ——————————————————.
Date of issue ————————.
Endorsement No. ————————.
For the subscribing companies:

By ——————————,
General Manager
Countersigned by ———————————

SUPPLEMENTARY ENDORSEMENT WAIVER OF DEFENSES

Reactor Construction at the Facility

It is agreed that in construing the application of paragraph 2.(b) of the Waiver of Defenses Endorsement (NE-33a) with respect to an extraordinary nuclear occurrence occurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect to which no operating license has been issued by the Nuclear Regulatory Commission shall not be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:

42 FR 20139

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility and

(2) No operating license has been issued by the Nuclear Regulatory Commission with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use or transfer of nuclear material at the facility.

Effective date of this endorsement ——————————— to form a part of Policy No. ————————.

12:01 A.M. Standard Time
Issued to ——————————————————.
Date of issue ————————.
Endorsement No ————————.
For the subscribing companies:

By ——————————,
General Manager
Countersigned by ——————————.

NUCLEAR ENERGY LIABILITY POLICY (FACILITY FORM)

Amendment of Definition of "Nuclear Energy Hazard" (Indemnified Nuclear Facility)

It is agreed that: 1. Solely with respect to an "insured shipment" to which the policy applies as proof of financial protection required by the Nuclear Regulatory Commission, subdivision (2) of the definition of "nuclear energy hazard" is amended to read:

(2) The nuclear material is in an insured shipment which is away from any other nuclear facility and is in the course of transportation, including handling and temporary storage incidental thereto, within

(a) The territorial limits of the United States of America, its territories or posses-

sions, Puerto Rico or the Canal Zone; or

(b) International waters or airspace, provided that the nuclear material is in the course of transportation between two points located within the territorial limits described in (a) above and there are no deviations in the course of the transportation for the purpose of going to any other country, state or nation, except a deviation in the course of said transportation for the purpose of going to or returning from a port or place of refuge as the result of an emergency.

2. As used herein, "financial protection" has the meaning given it in the Atomic Energy Act of 1954, as amended.

INSTRUCTIONS.—This form is to be used to modify all Nuclear Energy Liability Facility Forms in force on January 1, 1977 which were issued to become effective prior to January 1, 1977 and which are offered by the named insured as proof of financial protection being maintained as required by the Atomic Energy Act of 1954, as amended.

Effective date of this Endorsement ——————— To form a part of Policy No. —————.

12:01 A.M. Standard Time
Issued to ——————————.
Date of issue —————.
Endorsement No. —————.
For the subscribing companies:
By ———————.
General Manager
Countersigned by ———————

42 FR 20139

NUCLEAR ENERGY LIABILITY POLICY (FACILITY FORM)

AMENDMENT OF DEFINITIONS OF "NUCLEAR ENERGY HAZARD" AND "INSURED SHIPMENT" (INDEMNIFIED NUCLEAR FACILITY)

It is agreed that: I. In Insuring Agreement III, "DEFINITIONS"

A. Solely with respect to an "insured shipment" to which this policy applies as proof of financial protection required by the Nuclear Regulatory Commission, Subdivision (2) of the definition of "nuclear energy hazard" is amended to read:

(2) The nuclear material is in an insured shipment which is away from any other nuclear facility and is in the course of transportation, including the handling and temporary storage incidental thereto, within

(a) The territorial limits of the United States of America, its territories or possessions, Puerto Rico or the Canal Zone; or

(b) International waters or airspace, provided that the nuclear material is in the course of transportation between two points located within the territorial limits described in (a) above and there are no deviations in the course of the transportation for the purpose of going to any other country, state or nation, except for a deviation in the course of said transportation for the purpose of going to or returning from a port or place of refuge as the result of an emergency.

B. The definition of "insured shipment" is replaced with the following:

"Insured shipment" means a shipment of source material, special nuclear material, spent fuel or waste, herein called "material", (1) to the facility from any location except an indemnified nuclear facility, but only if the transportation of the material is not by predetermination to be interrupted by removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

II. As used herein, "financial protection" has the meaning given it in the Atomic Energy Act of 1954, as amended.

INSTRUCTIONS—This form is to be used to modify all Nuclear Energy Liability Facility Forms which are issued to become effective on or after January 1, 1977 and which are offered by the named insured as proof of financial protection being maintained as required by the Atomic Energy Act of 1954, as amended.

Effective date of this endorsement —— ————— To form a part of Policy No. —————.

12:01 A.M. standard time
Issued to ——————.
Date of issue —————.
Endorsement No. —————.
For the subscribing companies:
By ———————.
General Manager.
Countersigned by ———————.

42 FR 20139

NE–50 (1/1/80). Amendatory Endorsement (Indemnified Nuclear Facility)

It is agreed that:

I. In Insuring Agreement III: "DEFINITIONS"

A. The first sentence of the definition of "nuclear facility" is amended to read: "nuclear facility" means "the facility" as defined in any Nuclear Energy Liability Policy (Facility Form) issued by Nuclear Energy Liability Insurance Association or by Mutual Atomic Energy Liability Underwriters.

B. The definition of "indemnified nuclear facility" is replaced by the following: "indemnified nuclear facility" means

(1) "the facility" as defined in any Nuclear Energy Liability Policy (Facility Form) issued by Nuclear Energy Liability Insurance Association or by Mutual Atomic Energy Liability Underwriters, or

(2) any other nuclear facility, if financial protection is required pursuant to the Atomic Energy Act of 1954, or any law amendatory thereof, with respect to any activities or operations conducted thereat;

C. Solely with respect to an "insured shipment" to which this policy applies as proof of financial protection required by the Nuclear Regulatory Commission, Subdivision (2) of the definition of "nuclear energy hazard" is amended to read:

(2) The nuclear material is in an insured shipment which is away from any other nuclear facility and is in the course of transportation, including the handling and temporary storage incidental thereto, within

(a) The territorial limits of the United States of America, its territories or possessions, or Puerto Rico; or Canal Zone, or

(b) International waters or airspace, provided that the nuclear material is in the course of transportation between two points located within the territorial limits described in (a) above and there are no deviations in the course of the transportation for the purpose of going to any other country, state or nation, except a deviation in the course of said transportation for the purpose of going to or returning from a port or place of refuge as the result of an emergency.

D. The definition of "insured shipment" is replaced with the following:

"insured shipment" means shipment of source material, special nuclear material, spent fuel or waste, or tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, herein called "material," (1) to the facility from any location except an indemnified nuclear facility, but only if the transportation of the material is not by predetermination to be interrupted by removal of the material from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

E. As used herein, "financial protection" has the meaning given it in the Atomic Energy Act of 1954, as amended.

II. Insuring Agreement IV is replaced by the following:

IV. APPLICATION OF POLICY. This policy applies only to bodily injury or property damage (1) which is caused during the policy period by the nuclear energy hazard and (2) which is discovered and for which written claim is made against the insured, not later than ten years after the end of the policy period.

III. Condition 2 is replaced by the following:

2. INSPECTION: SUSPENSION. The companies shall at any time be permitted but not obligated to inspect the facility and all operations relating thereto and to examine the insured's books and records as far as they relate to the subject of this insurance and any property insurance afforded the insured through American Nuclear Insurers. If a representative of the companies discovers a condition which he believes to be unduly dangerous with respect to the nuclear energy hazard, a representative of the companies may request that such condition be corrected without delay. In the event of noncompliance with such request, a representative of the companies may, by notice to the named insured, to any other person or organization considered by the companies to be responsible for the continuation of such dangerous condition, and to the United States Nuclear Regulatory Commission, suspend this insurance with respect to named insured and such other person or organization effective 12:00 midnight of the next business day of such Commission following the date that such Commission receives such notice. The period of such suspension shall terminate as of the time stated in a written notice from the companies to the named insured and to each such person or organization that such condition has been corrected.

Neither the right to make such inspections and examinations nor the making thereof nor any advice or report resulting therefrom shall constitute an undertaking, on behalf of or for the benefit of the insured or others, to determine or warrant that such facility or operations are safe or healthful, or are in compliance with any law, rule or regulation. In consideration of the issuance or continuation of this policy, the insured agrees that neither the companies nor any pesons or organizations making such inspections or exminations on their behalf shall be liable

49 FR 11146

(next page is 140-14a)

with respect to injury to or destruction of property at the facility, or any consequential loss or expense resulting therefrom, or any loss resulting from interruption of business or manufacture, arising out of the making of or a failure to make any such inspection or examination, or any report thereon, or any such suspension of insurance, but this provision does not limit the contractual obligations of the companies under this policy or any policy affording the insured property insurance through American Nuclear Insurers.

IV. Condition 4 is replaced by the following:

4. LIMITATION OF LIABILITY: COMMON OCCURRENCE. Any occurrence or series of occurrences resulting in bodily injury or property damage arising out of the radioactive, toxic, explosive or other hazardous properties of

(a) nuclear material discharged or dispersed from the facility over a period of days, weeks, months or longer and also arising out of the properties of other nuclear material so discharged or dispersed from one or more other nuclear facilities insured under any Nuclear Energy Liability Policy (Facility Form) issued by Nuclear Energy Liability Insurance Association, or

(b) source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under this policy and also arising out of such properties of other source material, special nuclear material, spent fuel or waste in the course of transportation for which insurance is afforded under one or more other Nuclear Energy Liability Policies (Facility Form) issued by Nuclear Energy Liability Insurance Association, shall be deemed to be a common occurrence resulting in bodily injury or property damage caused by the nuclear energy hazard.

With respect to such bodily injury and property damage (1) the total aggregate liability of the members of the Nuclear Energy Liability Insurance Association under all Nuclear Energy Liability Policies (Facility Form), including this policy, applicable to such common occurrence shall be the sum of the limits of liability of all such policies, the limit of liability of each such policy being as determined by Condition 3 thereof, but in no event shall such total aggregate liability of such members exceed $124,000,000; (2) the total liability of the companies under this policy shall not exceed that proportion of the total aggregate liability of the members of Nuclear Energy Liability Insurance Association, as stated in clause (1) above, which (a) the limit of liability of this policy, as determined by Condition 3, bears to (b) the sum of the limits of liability of all such policies issued by such members, the limit of liability of each such policy being as determined by Condition 3 thereof.

The provisions of this condition shall not operate to increase the limit of the companies' liability under this policy.

V. The second paragraph of Condition 12, "Other Insurance," is amended to read:

If the insured has other valid and collectible insurance (other than such concurrent insurance or any other nuclear energy liability insurance issued by Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters to any person or organization) applicable to loss or expense covered by this policy, the insurance afforded by this policy shall be excess insurance over such other insurance; provided, with respect to any person who is not employed at and in connection with the facility, such insurance as is afforded by this policy for bodily injury to an employee of the insured arising out of and in the course of his employment shall be primary insurance under such other insurance.

VI. Paragraph (c) of Condition 16, "Company Representation," is amended to read:

(c) Nuclear Energy Liability Insurance Association is the agent of the companies with respect to all matters pertaining to this insurance. All notices or other communications required by this policy to be given to the companies may be given to such agent, at its office at the Exchange, Suite 245, 270 Farmington Avenue, Farmington, Connecticut 06032, with the same force and effect as if given directly to the companies. Any requests, demand or agreements made by such agent shall be deemed to have been made directly by the companies.

Effective Date of this Endorsement
——— 12:01 a.m. Standard Time to form a part of policy No. ———.
Issued to ——— For the subscribing companies.
Date of Issue ———.
By ——— General Manager.
Endorsement No. ———
NE–50 (1/1/81)

NE–51 (1/1/81)—Amendment of Definition of Condition 2 "Inspection: Suspension" and "Insured Shipment"

(Indemnified Nuclear Facility)

It is agreed that:

(1) Condition 2 "Inspection: Suspension" is replaced by the following:

2. Inspection: Suspension. The companies shall at any time be permitted but not obligated to inspect the facility and all operations relating thereto and to examine the insured's books and records as far as they relate to the subject of this insurance and any property insurance afforded the insured through American Nuclear Insurers. If a representative of the companies discovers a condition which he believes to be unduly dangerous with respect to the nuclear energy hazard, a representative of the companies may request that such conditions be corrected without delay. In the event of noncompliance with such requests, a representative of the companies may, by notice to the named insured, to any other person or organization considered by the companies to be responsible for the continuation of such dangerous condition, and to the United States Nuclear Regulatory Commission, suspend this insurance with respect to the named insured and such other person or organization effective 12:00 midnight of the next business day of such Commission following the date that such Commission receives such notice. The period of such suspension shall terminate as of the time stated in a written notice from the companies to the named insured and to each such person or organization that such condition has been corrected.

Neither the right to make such inspections and examinations nor the making thereof nor advice or report resulting therefrom shall constitute an undertaking, on behalf of or for the benefit of the insured or others, to determine or warrant that such facility or operations are safe or healthful, or are in compliance with any law, rule or regulation. In consideration of the issuance or continuation of this policy, the insured agrees that neither the companies nor any persons or organizations making such inspections or examinations on their behalf shall be liable with respect to injury to or destruction of property at the facility, or any consequential loss or expense resulting therefrom, or any loss resulting from interruption of business or manufacture, arising out of the making of or a failure to make any such inspection or examination, or any report thereon, or any such suspension of insurance, but this provision does not limit the contractual obligations of the companies under this policy or any policy affording the insured property insurance through American Nuclear Insurers.

(2) The definition of "insured shipment" in Insuring Agreement III, "Definitions," is replaced by the following: "insured shipment" means a shipment of source material, special nuclear material, spent fuel, waste, or tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content herein called "material," (1) to the facility from any location except an indemnified nuclear facility, but only if the transportation of the material is not by predetermination to be interrupted by removal from a transporting conveyance for any purpose other than the continuation of its transportation, or (2) from the facility to any other location, but only until the material is removed from a transporting conveyance for any purpose other than the continuation of its transportation.

Effective Date of this Endorsement
——— 12:01 a.m. Standard Time to form a part of Policy No. ———
Issued to ——— For the subscribing companies.
Date of Issue ———.
By ——— General Manager.
Endorsement No. ———
NE–51 (1/1/81)

49 FR 11146

33FR15996

§140.92 Appendix B—Form of indemnity agreement with licensees furnishing insurance policies as proof of financial protection.

26 FR 3455

This indemnity agreement ---------- is entered into by and between the ---------- (hereinafter referred to as the "licensee") and the United States Nuclear Regulatory Commission (hereinafter referred to as the "Commission") pursuant to subsection 170c of the Atomic Energy Act of 1954, as amended (hereinafter referred to as "the Act").

ARTICLE I

As used in this agreement,

1. "Nuclear reactor," "byproduct material," "person," "source material," and "special nuclear material" shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

49 FR 11146

2(a) For facilities designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more, and except when otherwise specifically provided, "amount of financial protection" means the amount specified in Item 2a. and b. of the Attachment annexed hereto, as modified by paragraph 8, Article II, with respect to common occurrences, and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan for deferred retrospective premium charges).

(b) For all other facilities, and except where otherwise specifically provided, "amount of financial protection" means the amount specified in Item 2a. and b., of the Attachment annexed hereto, as modified by paragraph 8, Article II, with respect to common occurrences.

49 FR 11146

3(a) "Nuclear incident" means any occurrence including an extraordinary nuclear occurrence or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence including an extraordinary nuclear occurrence or series of occurrences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive or other hazardous properties of

33 FR 15998

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as "the radioactive material" in any other agreement or agreements entered into by the Commission under subsection 170 c or k of the Act and so discharged or dispersed from "the location" as defined in any such other agreement, or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act as "the radioactive material" and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

26 FR 3455

4. "Extraordinary nuclear occurrence" means an event which the Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

33FR15998

5. "In the course of transportation" means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

49 FR 11146

(a) With respect to transportation of the radioactive material to the location, such transportation is not by pre-determination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto;

(c) "In the course of transportation" as used in this agreement shall not include transportation of the radioactive material to the location if the material is also "in the course of transportation" from any other "location" as defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act.

26 FR 3455

6. "Person indemnified" means the licensee and any other person who may be liable for public liability.

7. "Public liability" means any legal liability arising out of or resulting from a nuclear incident, except (1) claims under state or Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

8. "The location" means the location described in Item 4. of the Attachment hereto.

9. "The radioactive material" means source, special nuclear, and byproduct material which (1) is used or to be used in, or is irradiated or to be irradiated by, the nuclear reactor or reactors subject to the license or licenses designated in the Attachment hereto, or (2) which is produced as the result of operation of said reactor(s).

33 FR 15998

10. "United States", when used in a geographical sense, includes Puerto Rico and all territories and possessions of the United States.

45FR37410

ARTICLE II

1. At all times during the term of the license or licenses designated in Item 3 of the Attachment hereto, the licensee will maintain financial protection in the amount specified in Item 2 of the Attachment and in the form of the nuclear energy liability insurance policy designated in the Attachment. If more than one license is designated in Item 3 of the Attachment, the licensee agrees to maintain such financial protection until the end of the term of that license which will be the last to expire. The licensee shall, notwithstanding the ex-

33 FR 15998

33 FR 15998

piration, termination, modification, amendment, suspension or revocation of any license or licenses designated in Item 3 of the Attachment, maintain such financial protection in effect until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in subparagraph 5(b), Article I, or until the Commission authorizes the termination or the modification of such financial protection. The Commission will not unreasonably withhold such authorization.

27 FR 2884

2. In the event of any payment by the insurer or insurers under a policy or policies specified in Item 5 of the Attachment hereto which reduces the aggregate limit of such policy or policies below the amount of financial protection, the licensee will promptly apply to his insurers for reinstatement of the amount specified in Item 2a of the Attachment (without reference to paragraph b of Item 2) and will make all reasonable efforts to obtain such reinstatement. In the event that the licensee has not obtained reinstatement of such amount within ninety days after the date of such reduction, and in the absence of good cause shown to the contrary, the Commission may issue an order requiring the licensee to furnish financial protection for such amount in another form.

3. Any obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability, together with any public liability satisfied by the insurers under the policy or policies designated in the Attachment hereto, shall not in the aggregate exceed the amount of financial protection with respect to any nuclear incident, including the reasonable costs of investigating and settling claims and defending suits for damage.

33 FR 15998

4. With respect to any extraordinary nuclear occurrence to which this agreement applies, the Commission, and the licensee on behalf of itself and other persons idemnified, insofar as their interests appear, each agree to waive—

(a) Any issue or defense as to the conduct of the claimant or fault of persons indemnified, including, but not limited to

(1) Negligence;

(2) Contributory negligence;

(3) Assumption of the risk;

(4) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God.

As used herein, "conduct of the claimant" includes conduct of persons through whom the claimant derives his cause of action;

(b) Any issue or defense as to charitable or governmental immunity;

44 FR 20632

(c) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof, but in no event more than 20 years after the date of the nuclear incident.

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified.

33 FR 15998

5. The waivers set forth in Paragraph 4 of this article—

(a) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(b) Shall not apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

33 FR 15998

(c) Shall not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

36 FR 21580

Provided, however, **That with respect to an extraordinary nuclear occurrence occurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect** to which no operating license has been issued by the Nuclear Regulatory Commission shall not **be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:**

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility, and

(2) No operating license has been issued by the NRC with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use or transfer of nuclear material at the facility.

33 FR 15998.

(d) Shall not apply to any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law;

(e) Shall be effective only with respect to those obligations set forth in this agreement;

(f) Shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (1) the limit of liability provisions under subsection 170e of the Atomic Energy Act of 1954, as amended, and (2) the terms of this agreement and the terms of the nuclear energy liability insurance policy or policies designated in the attachment hereto.

6. The obligations of the licensee under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

7. Upon the expiration or revocation of any license designated in Item 3. of the Attachment, the Commission will enter into an appropriate amendment of this agreement with the licensee reducing the amount of financial protection required under this Article; provided, that the licensee is then entitled to a reduction in the amount of financial protection under applicable Commission regulations and orders.

44 FR 20632

8. With respect to any common occurrence, (a) If the sum of the limit of liability of any Nuclear Energy Liability Insurance Association policy designated in Item 5 of the Attachment and the limits of liability of all other nuclear energy liability insurance policies (facility form) applicable to such common occurence and issued by Nuclear Energy Liability Insurance Association exceeds $124,000,000 the amount of financial protection specified in Item 2 a and b of the Attachment shall be deemed to be reduced by that proportion of the difference between said sum and $124, 000, 000 as the limit of liability of the Nuclear Energy Liability Insurance Association policy designated in Item 5 of the Attachment bears to the sum of the limits of liability of all nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Nuclear Energy Liability Insurance Association;

44 FR 20632

(b) If the sum of the limit of liability of any Mutual Atomic Energy Liability Underwriters policy designated in Item 5 of the Attachment and the limits of liability of all other nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Mutual Atomic Energy Liability Underwriters exceeds $36, 000, 000 financial protection specified in Item 2 a and b of the Attachment shall be deemed to be reduced by that proportion of the difference between said sum and $36, 000,000 as the limit of liability of the Mutual Atomic Energy Liability Underwriters policy designated in Item 5 of the Attachment bears to the sum of the limits of liability of all nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Mutual Atomic Energy Liability Underwriters;

(c) If any of the other applicable agreements is with a person who has furnished financial protection in a form other than a nuclear energy liability insurance policy (facility form) issued by Nuclear Energy Liability Insurance Association or Mutual Atomic Energy Liability Underwriters, and if also the sum of the amount of financial protection established under this agreement and the amounts of financial protection established under all other applicable agreements exceeds an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection, the obligations of the licensee shall not exceed a greater proportion of an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection than the amount of financial protection established under this agreement bears to the sum of such amount and the amounts of financial protection established under all other applicable agreements.

49 FR 11146

(d) As used in this paragraph 8., Article II, and in Article III, "other applicable agreements" means each other agreement entered into by the Commission pursuant to subsection 170c. of the Act in which agreement the nuclear incident is defined as a "common occurrence." As used in this paragraph 8., Article II, "the obligations of the licensee" means the obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability, together with any public liability satisfied by the insurers under the policy or policies designated in the Attachment, and the reasonable costs incurred by the insurers in investigating and settling claims and defending suits for damage.

33FR15998

9. The obligations of the licensee under this Article shall not be affected by any failure or default on the part of the Commission or the Government of the United States to fulfill any or all of its obligations under this agreement. Bankruptcy or insolvency of any person indemnified other than the licensee, or the estate of any person indemnified other than the licensee, shall not relieve the licensee of any of his obligations hereunder.

ARTICLE III

26 FR 3455

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location described in Item 4 of the Attachment or at the location described in Item 3 of the declarations attached to any nuclear energy liability insurance policy designated in Item

26 FR 3455

5 of the Attachment;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

49 FR 11146

3 [removed]

4(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed the amount of financial protection.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed whichever of the following is lower: (1) The sum of the amounts of financial protection established under this agreement and all other applicable agreements: or (2) an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection.

26 FR 3455

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not , with

30 FR 14779

respect to any nuclear incident, in the aggregate exceed whichever of the following is the lowest: (a) $500,000,000; (b) $560,000,000 less the amount of financial protection required under this agreement; or (c) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under this agreement and all other applicable agreements .

33 FR 15998

7. The obligations of the Commission under this agreement except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified or of the estate of the licensee or any other person indemnified shall not relieve the Commission of any of its obligations hereunder.

49FR11146

ARTICLE IV

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other person indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnity under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

26 FR 3455

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

ARTICLE V

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE VI

The licensee agrees to pay to the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

33 FR 15998

ARTICLE VII

The term of this agreement shall commence as of the date and time specified in Item 6 of the Attachment and shall terminate at the time of expiration of that license specified in Item 3 of the Attachment, which is the last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in subparagraph 5 (b), Article I. Termination of the term of this agreement shall not affect any obligation of the licensee or any obligation of the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

49 FR 11146

ARTICLE VIII

The following provisions are applicable to each licensee operating a facility designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more;

1. Each licensee is required to have and maintain financial protection in an amount specified in Item 2a and b of the Attachment annexed hereto, and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan providing for deferred premium charges): *Provided, however,* That under such a plan for deferred premium charges, such charges for each nuclear reactor which is licensed to operate shall not exceed $5 million with respect to any single nuclear incident nor exceed $10 million within one calendar year. If the licensee fails to pay assessed deferred premiums, the Commission reserves the right to pay those premiums on behalf of the licensee and to recover the amount of such premiums from the licensee.

42 FR 46

2. The Commission shall require the immediate submission of financial statements by those licensees who indicate, after an assessment of the retrospective premium by the insurance pools, that they will not pay the assessment. Such financial statements shall include, as a minimum, exhibits indicating internally generated funds from operations and accumulated retained earnings. Subsequent submission of financial statements by such licensees may be requested by the Commission, as required.

3. If premiums are paid by the Commission as provided in paragraph 1, payment by the Commission shall create a lien in the amount paid in favor of the United States upon all property and rights to property, whether real or personal, belonging to such licensee. The lien shall arise at the time payment is made by the Commission and shall continue until the liability for the amount (or a judgment against the licensee arising out of such liability) is satisfied or becomes unenforceable. The Commission will issue a certificate of release of any such lien if it finds that the liability for the amount has been fully satisfied or has become legally unenforceable.

4. If the Commission determines that the licensee is financially able to reimburse the Commission for a deferred premium payment made in its behalf, and the licensee, after notice of such determination by the Commission fails to make such reimbursement within 120 days, the Commission will take appropriate steps to suspend the license for 30 days. The Commission may take any further action as necessary if reimbursement is not made within the 30-day suspension period including, but not limited to termination of the operating license.

26 FR 3455

UNITED STATES NUCLEAR REGULATORY
COMMISSION

Indemnity Agreement No. ------

Item 1—Licensee ----------------------
Address ----------------------

Item 2—a. Amount of financial protection
----
b.

With respect to any nuclear incident, the amount specified in Item 2a of this Attachment shall be deemed to be (i) reduced to the extent that any payment made by the insurer or insurers under a policy or policies specified in Item 5 of this Attachment reduces the aggregate amount of such insurance policies below the amount specified in Item 2a and (ii) restored to the extent that, following such reduction, the aggregate amount of such insurance policies is reinstated.

Item 3—License number or numbers ------

Item 4—Location ----------------------

Item 5—Insurance Policy No.(s) ---------

Item 6—The indemnity agreement designated above, of which this Attachment is a part, is effective as of -- m., on the -- day of ----------, 19--.

For the United States Nuclear Regulatory Commission.

By ----------------------
For the ----------------------
(Name of licensee)
By ----------------------

Dated at Bethesda, Md., the ------ day of --------, 19 --.

33 FR 15998

§140.93 Appendix C–Form of indemnity agreement with licensees furnishing proof of financial protection in the form of licensee's resources.

This indemnity agreement No. ---------- is entered into by and between the ---------- (hereinafter referred to as the "licensee") and the United States Nuclear Regulatory Commission (hereinafter referred to as the "Commission" pursuant to subsection 170c of the Atomic Energy Act of 1954, as amended (hereinafter referred to as "the Act").

26 FR 3455

ARTICLE I

As used in this agreement,

1. "Nuclear reactor," "byproduct material," "person," "source material," and "special nuclear material" shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

49 FR 11146

2(a) For facilities designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more and except where otherwise specifically provided, "amount of financial protection" means the amount specified in Item 2 of the Attachment annexed hereto, as modified by paragraph 8, Article II, with respect to common occurrences, and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan providing for deferred retrospective premium charges).

(b) For all other facilities, and except where otherwise specifically provided, "amount of financial protection" means the amount specified in Item 2 of the Attachment annexed hereto, as modified by paragraph 8, Article II, with respect to common occurrences.

3(a) "Nuclear incident" means any occurrence including an extraordinary nuclear occurrence or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence including an extraordinary nuclear occurrence or series of occurrences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive or other hazardous properties of—

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as "the radioactive material" in any other agreement or agreements entered into by the Commission under subsection 170 c or k of the Act and so discharged or dispersed from "the location" as defined in any such other agreement; or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act as "the radioactive material" and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

4. "Extraordinary nuclear occurrence" means an event which the Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

5. "In the course of transportation" means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not by pre-determination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto;

(c) "In the course of transportation" as used in this agreement shall not include transportation of the radioactive material to the location if the material is also "in the course of transportation" from any other "location" as defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act.

6. "Person indemnified" means the licensee and any other person who may be liable for public liability.

7. "Public liability" means any legal liability arising out of or resulting from a nuclear incident, except (1) claims under state or Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use, or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b), if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

8. "The location" means the location described in Item 4. of the Attachment hereto.

9. "The radioactive material" means source, special nuclear, and byproduct material which (1) is used or to be used in, or is irradiated or to be irradiated by, the nuclear reactor or reactors subject to the license or licenses designated in the Attachment hereto, or (2) which is produced as the result of operation of said reactor(s).

10. "United States" when used in a geographical sense includes Puerto Rico and all Territories and possessions of the United States.

ARTICLE II

1. The licensee undertakes and agrees to indemnify and hold harmless all persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the incident, the licensee agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the licensee under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation; and

(d) The radioactive material.

3. Any obligations of the licensee under paragraphs 1 and 2 of this Article, and under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability shall not in the aggregate exceed the amount of financial protection with respect to any nuclear incident, including the reasonable costs of investigating and settling claims and defending suits for damage.

4. With respect to any extraordinary nuclear occurrence to which this agreement applies, the Commission, and the licensee on behalf of itself and other persons indemnified, insofar as their interests appear, each agree to waive—

(a) Any issue or defense as to the conduct of the claimant or fault of persons indemnified, including, but not limited to—

(1) Negligence;

(2) Contributory negligence;

(3) Assumption of the risk;

(4) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God.

As used herein, "conduct of the claimant" includes conduct of persons through whom the claimant derives his cause of action;

(b) Any issue or defense as to charitable or governmental immunity;

(c) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof, but in no event more than 20 years after the date of the nuclear incident. The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified.

5. The waivers set forth in paragraph 4, of this article—

(a) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(b) Shall not apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(c) Shall not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

Provided, however, That with respect to an extraordinary nuclear occurrence occurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect to which no operating license has been issued by the Nuclear Regulatory Commission shall not be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility, and

(2) No operating license has been issued by the NRC with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use or transfer of nuclear material at the facility.

(d) Shall not apply to any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law;

(e) Shall be effective only with respect to those obligations set forth in this agreement and in contracts or other proof of financial protection;

(f) Shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (1) the limit of liability provisions under subsection 170e, of the Atomic Energy Act of 1954, as amended, and (2) the terms of this agreement and the terms of contracts or other proof of financial protection.

6. The obligations of the licensee under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

7. Upon the expiration or revocation of any license designated in Item 3. of the Attachment, the Commission will enter into an appropriate amendment of this agreement with the licensee reducing the amount of

33 FR 15998

financial protection required under this Article; provided, that the licensee is then entitled to a reduction in the amount of financial protection under applicable Commission regulations and orders.

44 FR 20632

8. With respect to a common occurrence, if the sum of the amount of financial protection established under this agreement and the amount of financial protection established under all other applicable agreements exceeds an amount equal to the sum of $160, 000,000 and the amount available as secondary financial protection, the obligations of the licensee described in paragraph 3 of this Article shall not exceed a greater proportion of an amount equal to the sum of $160, 000,000 and the amount available as secondary financial protection than the amount of financial protection established under this agreement bears to the sum of such amount and the amounts of financial protection established under all other applicable agreements. As used in this paragraph, and in Article III, "other applicable agreements" means each other agreement entered into by the Commission pursuant to subsection 170c of the Act in which agreement the nuclear incident is defined as a "common occurrence".

33 FR 15998

9. The obligations of the licensee under this Article shall not be affected by any failure or default on the part of the Commission or the Government of the United States to fulfill any or all of its obligations under this agreement. Bankruptcy or insolvency of any person indemnified other than the licensee, or the estate of any person indemnified other than the licensee, shall not relieve the licensee of any of his obligations hereunder.

Article III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) the radioactive material.

49 FR 11146

3 [removed]

4(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed the amount of financial protection.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed whichever of the following is lower: (1) The sum of the amounts of financial protection established under this agreement and to all other applicable agreements; or (2) an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection.

26 FR 3455

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not, with

30 FR 14779

respect to any nuclear incident, in the aggregate exceed whichever of the following is the lowest: (a) $500,000,000; (b) $560,000,000 less the amount of financial protection required under this agreement; or (c) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under this agreement and all other applicable agreements .

33 FR 15998

7. The obligations of the Commission under this agreement except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified shall not relieve the Commission of any of its obligations hereunder.

Article IV

49 FR 11146

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other person indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnify under this agreement: and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

Article V

26 FR 3455

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

Article VI

The licensee agrees to pay to the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

Article VII

33 FR 15998

The term of this agreement shall commence as of the date and time specified in Item 6 of the attachment and shall terminate at the time of expiration of that license specified in Item 3 of the attachment, which is last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in subparagraph 5(b), Article I. Termination of the term of this agreement shall not affect any obligation of the licensee or any obligation of the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

Article VIII

49 FR 11146

The following provisions are applicable to each licensee operating a facility designed for producing substantial amounts of electricity and having a rated capacity of 100,000 electrical kilowatts or more:

1. Each licensee is required to have and maintain financial protection in an amount specified in Item 2 annexed hereto, and the amount available as secondary financial protection (in the form of private liability insurance available under an industry retrospective rating plan providing for deferred premium charges). *Provided, however,* That under such a plan for deferred premium charges, such charges for each nuclear reactor which is licensed to operate shall not exceed $5 million with respect to any single nuclear incident nor exceed $10 million within one calendar year. If the licensee fails to pay assessed deferred premiums, the Commission reserves the right to pay those premiums on behalf of the licensee and to recover the amount of such premiums from the licensee.

42 FR 46

2. The Commission shall require the immediate submission of financial statements by those licensees who indicate, after an assessment of the restrospective premium by the insurance pools, that they will not pay the assessment. Such financial statements shall include, as a minimum, exhibits indicating internally generated funds from operations and accumulated retained earnings. Subsequent submission of financial statements by such licensees may be requested by the Commission, as required.

3. If premiums are paid by the Commission as provided in paragraph 1, payment by the Commission shall create a lien in the amount paid in favor of the United States upon all property and rights to property, whether real or personal, belonging to such licensee. The lien shall arise at the time payment is made by the Commission and shall continue until the liability for the amount (or a judgment against the licensee arising out of such liability) is satisfied or becomes unenforceable. The Commission will issue a certificate of release of any such

(next page is 140-18a)

lien if it finds that the liability for the amount has been fully satisfied or has become legally unenforceable.

42 FR 46

4. If the Commission determines that the licensee is financially able to reimburse the Commission for a deferred premium payment made in its behalf, and the licensee, after notice of such determination by the Commission fails to make such reimbursement within 120 days, the Commission will take appropriate steps to suspend the license for 30 days. The Commission may take any further action as necessary if reimbursement is not made within the 30-day suspension period including, but not limited to, termination of the operating license.

26 FR 3455

UNITED STATES NUCLEAR REGULATORY COMMISSION

Indemnity Agreement No. ———

Attachment

Item 1—Licensee ————————————

Address ————————————————

Item 2—Amount of financial protection —
Item 3—License number or numbers ———
Item 4—Location ————————————
————————————————————

————————————————————

26 FR 3455

Item 5—The Indemnity Agreement designated above, of which this Attachment is a part, is effective as of ———M., on the ——— day of ————, 19—.

For the United States Nuclear Regulatory Commission.

By ————————
For the ————————
(Name of licensee)
By ————————

Dated at Bethesda, Md., the ——— day of ————, 19—.

§ 140.94 Appendix D—Form of indemnity agreement with Federal agencies.

This indemnity agreement No. D—— is entered into by and between the ———— (hereinafter referred to as the "licensee") and the United States Nuclear Regulatory Commission (hereinafter referred to as the "Commission") pursuant to subsection 170c of the Atomic Energy Act of 1954, as amended (hereinafter referred to as "the Act").

Article I

33 FR 15998

As used in this agreement,

1. "Nuclear reactor," "byproduct material," "person," "source material," and "special nuclear material" shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2(a) "Nuclear incident" means any occurrence including an extraordinary nuclear occurrence or series of occurrences at the location **or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.**

(b) Any occurrence including an extraordinary nuclear occurrence or series of occur**rences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive or other hazardous properties of**

27 FR 2884

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as "the radioactive material" in any other agreement or agreements entered into by the Commission under subsection 170 c or k of the Act and so discharged or dispersed from "the location" as defined in any such other agreement, or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act as "the radioactive material" and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

33FR15998

3. "Extraordinary nuclear occurrence" means an event which the Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

49FR11146

4. "In the course of transportation" means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

49 FR 11146

27 FR 2884

(a) With respect to transportation of the radioactive material to the location, such transportation is not by predetermination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto;

(c) "In the course of transportation" as used in this agreement shall not include transportation of the radioactive material to the location if the material is also "in the course of transportation" from any other "location" as defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act.

33FR15998

5. "Person indemnified" means the licensee and any other person who may be liable for public liability.

49 FR 11146

6. "Public liability" means any legal liability arising out of or resulting from a nuclear incident, except, (1) claims under State or Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use, or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

33 FR 15998

7. "The location" means the location described in Item 3, of the Attachment hereto.

8. "The radioactive material" means source, special nuclear, and byproduct material which (1) is used or to be used in, or is irradiated or to be irradiated by, the nuclear reactor or reactors subject to the license or licenses designated in the Attachment hereto, or (2) is produced as the result of operation of said reactor(s).

45FR37410

9. "United States", when used in a geographical sense, includes Puerto Rico and all territories and possessions of the United States.

Article II

27 FR 2884

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

49FR11146

3 [removed]

33 FR 15998

4. With respect to any extraordinary nuclear occurrence to which this agreement applies, the Commission, and the licensee on behalf of itself and other persons indemnified, insofar as their interests appear, each agree to waive—

(a) Any issue or defense as to the conduct of the claimant or fault of persons indemnified, including, but not limited to—

(1) Negligence;
(2) Contributory negligence;
(3) Assumption of the risk;
(4) Unforseeable intervening causes, whether involving the conduct of a third person or an act of God.

As used herein, "conduct of the claimant" includes conduct of persons through whom the claimant derives his cause of action;

(b) Any issue or defense as to charitable or governmental immunity;

42 FR 20139

(c) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof, but in no event more than 20 years after the date of the nuclear incident.

33 FR 15998

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified.

5. The waivers set forth in paragraph 4 of this article—

(a) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(b) Shall not apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(c) Shall not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

36 FR 21580

Provided, however, **That with respect to an extraordinary nuclear occurrence occurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect to** which no operating license has been issued by the Nuclear Regulatory Commission shall not **be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:**

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility, and

(2) No operating license has been issued by the NRC with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use or transfer of nuclear material at the facility.

33 FR 15998

(d) Shall not apply to any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law;

(e) Shall be effective only with respect to those obligations set forth in this agreement;

(f) Shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (1) the limit of liability provisions under subsection 170e. of the Atomic Energy Act of 1954, as amended, and (2) the terms of this agreement.

49 FR 11146

6. With respect to a common occurrence, the obligations of the Commission under this Article shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed whichever of the following is lower: (1) The sum of the amount of financial protection established under all applicable agreements; or (2) an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection. As used in this Article "applicable agreements" means each agreement entered into by the Commission pursuant to subsection 170c. of the Act in which agreement the nuclear incident is defined as a "common occurrence."

33 FR 15998

7. The obligations of the Commission under this agreement shall apply only with **respect to nuclear incidents occurring during the term of this agreement.**

8. The obligations of the Commission under this and all other agreements and con**tracts to which the Commission is a party shall not**

30 FR 14779

with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lower: (a) $500,000,000 or (b) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under all applicable agreements

33 FR 15998

9. Bankruptcy or insolvency of any person indemnified or of the estate of any person **indemnified shall not relieve the Commission of any of its obligations hereunder.**

49 FR 11146

ARTICLE III

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other persons indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnify under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

27 FR 2884

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

ARTICLE IV

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE V

The licensee agrees to pay to the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

ARTICLE VI

33 FR 15998

The term of this agreement shall commence as of the date and time specified in Item 4 of the attachment and shall terminate at the time of expiration of that license specified in Item 2 of the Attachment, which is the last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in subparagraph 4(b), Article I. Termination of the term of **this agreement shall not affect any obligation of the licensee or any obligation of the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.**

27 FR 2884

UNITED STATES NUCLEAR REGULATORY COMMISSION

Indemnity Agreement No. D- ______

ATTACHMENT

Item 1—Licensee ______________________
Address ______________________
Item 2—License number or numbers ______
Item 3—Location ______________________
____
____
Item 4—The indemnity agreement designated above, of which this Attachment is a part, is effective as of _____ m., on the ______ day of __________, 19__.

For the United States Nuclear Regulatory Commission.

By ______________________
For the ______________________
(Name of licensee)
By ______________________

Dated at Bethesda, Md., the ______ day of ________, 19 __.

§140.95 Appendix E–Form of indemnity agreement with nonprofit educational institutions.

33 FR 15998

This indemnity agreement No. E-______ is entered into by and between the __________ (hereinafter referred to as the "licensee") and the United States Nuclear Regulatory Commission (hereinafter referred to as the **~~"Commission") pursuant to subsection 170k~~ of the Atomic Energy Act of 1954, as amended (hereinafter referred to as "the Act").**

ARTICLE I

As used in this agreement,

1. "Nuclear reactor," "byproduct material," "person," "source material," and "special nuclear material" shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2(a) "Nuclear incident" means any occurrence including an extraordinary nuclear occurrence or series of occurrences at the lo**cation or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.**

(b) Any occurrence including an extraordinary nuclear occurrence or series of occur**rences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of**

27 FR 2884

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as "the radioactive material" in any other agreement or agreements entered into by the Commission under subsection 170 c or k of the Act and so discharged or dispersed from "the location" as defined in any such other agreement; or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act as "the radioactive material" and which is in the course of transportation

shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

33 FR 15998

3. "Extraordinary nuclear occurrence" means an event which the Commission has determined to be an extraordinary nuclear occurrence as defined in the Atomic Energy Act of 1954, as amended.

49 FR 11146

4. "In the course of transportation" means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

27 FR 2884

(a) With respect to transportation of the radioactive material to the location, such transportation is not by predetermination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is re-

27 FR 2884

moved from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto;

(c) "In the course of transportation" as used in this agreement shall not include transportation of the radioactive material to the location if the material is also "in the course of transportation" from any other "location" as defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act.

33FR15998

5. "Person indemnified" means the licensee and any other person who may be liable for public liability.

49 FR 11146

6. "Public liability" means any legal liability arising out of or resulting from a nuclear incident, except (1) claims under State or Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use, or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

33 FR 15998

7. "The location" means the location described in Item 3. of the Attachment hereto.

8. "The radioactive material" means source special nuclear, and byproduct material which (1) is used or to be used in, or is irradiated or to be irradiated by, the nuclear reactor or reactors subject to the license or licenses designated in the Attachment hereto, or (2) which is produced as the result of operation of said reactor(s).

45 FR 37410

9. "United States", when used in a geographical sense, includes Puerto Rico and all territories and possessions of the United States.

ARTICLE II

33 FR 15998

1. Any obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability shall not in the aggregate exceed $250,000 with respect to any nuclear incident.

2. With respect to any extraordinary nuclear occurrence to which this agreement applies, the Commission, and the licensee on behalf ' itself and other persons indemnified, insofar as their interests appear, each agree to waive—

(a) Any issue or defense as to the conduct of the claimant or fault of persons indemnified, including, but not limited to

(1) Negligence;

(2) Contributory negligence;

(3) Assumption of the risk;

(4) Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God.

As used herein, "conduct of the claimant" includes conduct of persons through whom the claimant derives his cause of action;

(b) Any issue or defense as to charitable or governmental immunity;

44 FR 20632

(c) Any issue or defense based on any statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof, but in no event more than 20 years after the date of the nuclear incident.

33 FR 15998

The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waivers shall be judicially enforceable in accordance with their terms by the claimant against the person indemnified.

3. The waivers set forth in paragraph 2 of this article—

(a) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(b) Shall not apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(c) Shall not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

36 FR 21580

Provided, however, That with respect to an extraordinary nuclear occurrence oocurring at the facility, a claimant who is employed at the facility in connection with the construction of a nuclear reactor with respect to which no operating license has been issued by the Nuclear Regulatory Commission shall not be considered as employed in connection with the activity where the extraordinary nuclear occurrence takes place if:

(1) The claimant is employed exclusively in connection with the construction of a nuclear reactor, including all related equipment and installations at the facility, and

(2) No operating license has been issued by the NRC with respect to the nuclear reactor, and

(3) The claimant is not employed in connection with the possession, storage, use, or transfer of nuclear material at the facility.

33 FR 15998

(d) Shall not apply to any claim for punitive or exemplary damages, provided, with respect to any claim for wrongful death under any State law which provides for damages only punitive in nature, this exclusion does not apply to the extent that the claimant has sustained actual damages, measured by the pecuniary injuries resulting from such death but not to exceed the maximum amount otherwise recoverable under such law;

(e) Shall be effective only with respect to those obligations set forth in this agreement;

(f) Shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (1) the limit of liability provisions under subsection 170e of the Atomic Energy Act of 1954, as amended, and (b) the terms of this agreement.

27 FR 2884

ARTICLE III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

49 FR 11146

3 [removed]

4(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed $250,000.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed whichever of the following is lower: (1) The sum of the amounts of financial protection established under all applicable agreements; or (2) an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection. As used in this Article "applicable agreements" mean each agreement entered into by the Commission pursuant to subsection 170c of the Act in which agreement the nuclear incident is defined as a "common occurrence."

27 FR 2884

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not

30 FR 14779

with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lower: (a) $500,000,000 or (b) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under all applicable agreements

27 FR 2884

7. If the licensee is immune from public liability because it is a state agency, the Commission shall make payments under this agreement in the same manner and to the same extent as the Commission would be required to do if the licensee were not such a state agency.

8. The obligations of the Commission under this agreement except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified or of the estate of the licensee or any other person indemnified shall not relieve the Commission of any of its obligations hereunder.

33 FR 15998

ARTICLE IV

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other person indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnify under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

49 FR 11146

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

ARTICLE V

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE VI

The licensee agrees to pay to the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

27 FR 2884

ARTICLE VII

The term of this agreement shall commence as of the date and time specified in Item 4 of the Attachment and shall terminate at the time of expiration of that license specified in Item 2 of the Attachment, which is the last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in subparagraph 4 (b), Article I. Termination of the term of this agreement shall not affect any obligation of the licensee or any obligation of the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

33 FR 15998

UNITED STATES NUCLEAR REGULATORY COMMISSION

Indemnity Agreement No. E- ----

ATTACHMENT

Item 1—Licensee ------------------------
Address ------------------------
Item 2—License number or numbers-------
Item 3—Location ------------------------

Item 4—The indemnity agreement designated above, of which this Attachment is a part, is effective as of ------ m., on the ------ day of ----------, 19 --.

For the United States Nuclear Regulatory Commission.

By ----------------------
For the ----------------------
By ----------------------
(Name of licensee)

Dated at Bethesda, Md., the ------ day of --------, 19 --.

27 FR 2884

§ 140.96 Appendix F—Indemnity locations.

(a) *Geographical boundaries of indemnity locations.* (1) In every indemnity agreement between the Commission and a licensee which affords indemnity protection for the preoperational storage of fuel at the site of a nuclear power reactor under construction, the geographical boundaries of the indemnity location will include the entire construction area of the nuclear power reactor, as determined by the Commission. Such area will not necessarily be coextensive with the indemnity location which will be established at the time an operating license is issued for such additional nuclear power reactors.

(2) In every indemnity agreement between the Commission and a licensee which affords indemnity protection for an existing nuclear power reactor, the geographical boundaries of the indemnity location shall include the entire construction area of any additional nuclear power reactor as determined by the Commission, built as part of the same power station by the same licensee. Such area will not necessarily be coextensive with the indemnity location which will be established at the time an operating license is issued for such additional nuclear power reactors.

(3) This section is effective May 1, 1973, as to construction permits issued prior to March 2, 1973, and, as to construction permits issued on or after March 2, 1973, the provisions of this section will apply no later than such time as a construction permit is issued authorizing construction of any additional nuclear power reactor.

38 FR 2983

§ 140.107 Appendix G—Form of indemnity agreement with licensees processing plutonium for use in plutonium processing and fuel fabrication plants and furnishing insurance policies as proof of financial protection.

This Indemnity Agreement No. ---- is entered into by and between -------- (hereinafter referred to as the "licensee") and the United States Nuclear Regulatory Commission (hereinafter referred to as the "Commission") pursuant to subsection 170c of the Atomic Energy Act of 1954, as amended (hereinafter referred to as "the Act"), and Section 201 of the Energy Reoganization Act of 1974, as amended.

42 FR 46

ARTICLE I

As used in this agreement:

1. "Byproduct material," "person," "source material," "special nuclear material," and "extraordinary nuclear occurrence" shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2. Except where otherwise specifically provided, "amount of financial protection" means the amount specified in Item 2a and b, of the Attachment annexed hereto as modified by paragraph 6, Article II, with respect to common occurrences.

3. (a) "Nuclear incident" means any occurrence including an extraordinary nuclear occurrence, or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence, including an extraordinary nuclear occurrence, or series of occurrences causing bodily injury, sickness, disease or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of:

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as "the radioactive material" in any other agreement or agreements entered into by the Commission under subsection 170c or k of the Act and so discharged or dispersed from "the location" as defined in any such other agreement, or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into by the Commission pursuant to subsection 170c or k of the Act as "the radioactive material" and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence shall be deemed to constitute a single nuclear incident.

42 FR 46

4. "In the course of transportation" means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not by predetermination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto;

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporarty storage incidental thereto;

42 FR 46

(c) "In the course of transportation" as used in this agreement shall not include transportation of the radioactive material to the location if the material is also "in the course of transportation" from any other "location" as defined in any other agreement entered into by the Commission pursuant to subsection 170c or k of the Act.

5. "Person indemnified" means the licensee and any other person who may be liable for public liability.

6. "Public liability" means any legal liability arising out of or resulting from a nuclear incident, except (1) claims under State or Federal Workmen's Compensation Acts of employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the

transporting vehicle, and (b) in connection with the licensee's possession, use or transfer of the radioactive material; (2) claims arising out of an act of war; and (3) claims for loss of or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

7. "The location" means the location described in Item 4 of the Attachment hereto.

8. "The radioactive material" means (a) any source, special nuclear, or byproduct material which (1) is both used or to be used in, or is processed or to be processed by, the licensee's plutonium processing and fuel fabrication plant or plants and is subject to the license or licenses designated in the Attachment hereto, or (2) is produces as the result of the operation of said plant or plants or (b) any source, special nuclear, or byproduct material which is waste or contamination from material described in paragraph 8(a). The words "used or to be used" and "processed or to be processed" in this paragraph cover source, special nuclear or byproduct material which is "in the course of transportation" as used in the agreement or is received at the plant for use or processing in the plant but which is, in fact, for any reason, not so used or processed.

42 FR 46

9. "United States" when used in a geographical sense includes Puerto Rico and all territories and possessions of the United States.

45 FR 37410

ARTICLE II

1. At all times during the term of the license or licenses designated in Item 3 of the Attachment hereto, the licensee will maintain financial protection in the amount specified in Item 2 of the Attachment and in the form of the nuclear energy liability insurance policy designated in the Attachment. If more than one license is designated in Item 3 of the Attachment, the licensee agrees to maintain such financial protection until the end of the term of that license which will be the last to expire. The licensee shall, notwithstanding the expiration, termination, modification, amendment, suspension of revocation of any license or licenses designated in Item 3 of the Attachment, maintain such financial protection in effect until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in subparagraph 4(b), Article I, or until the Commission authorizes the termination or the modification of such financial protection. The Commission will not unreasonably withhold such authorization.

2. In the event of any payment by the insurer or insurers under a policy or policies specified in Item 5 of the Attachment hereto which reduces the aggregate limit of such policy or policies below the amount of financial protection, the licensee will promptly apply to his insurers for reinstatement of the amount specified in Item 2a of the Attachment (without reference to paragraph b of Item 2) and will make all reasonable efforts to obtain such reinstatement. In the event that the licensee has not obtained reinstatement of such amount within ninety days after the date of such reduction, and in the absence of good cause shown to the contrary, the Commission may issue an order requiring the licensee to furnish financial protection for such amount in another form.

42 FR 46

3. Any obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability, together with any public liability satisfied by the insurers under the policy or policies designated in the Attachment hereto, shall not in the aggregate exceed the amount of financial protection with respect to any nuclear incident, including the reasonable costs of investigating and settling claims and defending suits for damage.

4. The obligations of the licensee under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

5. Upon the expiration or revocation of any license designated in Item 3 of the Attachment, the Commission will enter into an appropriate amendment of this agreement with the licensee reducing the amount of financial protection required under this Article: provided, that the licensee is then entitled to a reduction in the amount of financial protection under applicable Commission regulations and orders.

6. With respect to any common occurrence,

42 FR 46

(a) If the sum of the limit of liability of any Nuclear Energy Liability-Property Insurance Association policy designated in Item 5 of the Attachment and the limits of liability of all other nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Nuclear Energy Liability-Property Insurance Association exceeds $124,000,000, the amount of financial protection specified in Item 2 a and b of the Attachment shall be deemed to be reduced by that proportion of the difference between said sum and $124,000,000 as the limit of liability of the Nuclear Energy Liability-Property Insurance Association policy designated in Item 5 of the Attachment bears to the sum of the limits of liability of all nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Nuclear Energy Liability-Property Insurance Association;

(b) If the sum of the limit of liability of any Mutual Atomic Energy Liability Underwriters policy designated in Item 5 of the Attachment and the limits of liability of all other nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Mutual Atomic Energy Liability Underwriters exceeds $36,000,000, the amount of financial protection specified in Item 2 a and b of the Attachment shall be deemed to be reduced by that proportion of the difference between said sum and $36,000,000 as the limit of liability of the Mutual Atomic Energy Liability Underwriters policy designated in Item 5 of the Attachment bears to the sum of the limits of liability of all nuclear energy liability insurance policies (facility form) applicable to such common occurrence and issued by Mutual Atomic Energy Liability Underwriters;

(c) If any of the other applicable agreements is with a person who has furnished financial protection in a form other than a nuclear energy liability insurance policy (facility form) issued by Nuclear Energy Liability-Property Insurance Association or Mutual Atomic Energy Liability Underwriters, and if also the sum of the amount of financial protection established under this agreement and the amounts of financial protection established under all other applicable agreements exceeds an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection, the obligations of the licensee shall not exceed a greater proportion of an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection than the amount of financial protection established under this agreement bears to the sum of such amount and the amounts of financial protection established under all other applicable agreements.

44 FR 20632

(d) As used in this paragraph 6., Article II and in Article III, "other applicable agreements" means each other agreement entered into by the Commission pursuant to subsection 170c. of the Act in which agreement the nuclear incident is defined as a "common occurrence." As used in this paragraph 6., Article II, "the obligations of the licensee" means the obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability, together with any public liability satisfied by the insurers under the policy or policies designated in the Attachment, and the reasonable costs incurred by the insurers in investigating and settling claims and defending suits for damage.

49 FR 11146

ARTICLE III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location described in Item 4 of the Attachment or at the location described in Item 3 of the declarations attached to any nuclear energy liability insurance policy designated in Item 5 of the Attachment;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the raidoactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

42 FR 46

3 [removed]

4(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed the amount of financial protection.

(b) With respect to a common occurrence, the obligations of the Commission under this

49 FR 11146

agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed $100,000,000.

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not, with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lowest: (a) $500,000,000; (b) $560,000,000 less the amount of financial protection required under this agreement; or (c) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under this agreement and all other applicable agreements.

7. The obligations of the Commission under this agreement, except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified, or of the estate of the licensee or any other person indemnified, shall not relieve the Commission of any of its obligations hereunder.

ARTICLE IV

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other person indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnify under this agreement; and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

ARTICLE V

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE VI

The licensee agrees to pay the Commission such fees as are established by the Commission pursuant to regulations or others of the Commission.

ARTICLE VII

The term of this agreement shall commence as of the date and time specified in Item 6 of the Attachment and shall terminate at the time of expiration of that license specified in Item 3 of the Attachment, which is the last to expire; provided that, execpt as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in paragraph 4(b), Article I. Termination of the term of this agreement shall not affect any obligation of the licensee or the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

UNITED STATES NUCLEAR REGULATORY COMMISSION

ATTACHMENT

Indemnity Agreement No. ————

Item 1—Licensee. ————

Item 2—

a. Amount of financial protection ————

b. With respect to any nuclear incident, the amount specified in Item 2a of this Attachment shall be deemed to be (i) reduced to the extent that any payment made by the insurer or insurers under a policy or policies specified in Item 5 of this Attachment reduces the aggregate amount of such insurance policies below the amount specified in Item 2a and (ii) restored to the extent that, following such reduction, the aggregate amount of such insurance polices is reinstated.

Item 3—License number or numbers————

————

Item 4—Location ————

————

Item 5—Insurance Policy No.(s)————

————

Item 6—The indemnity agreement designated above, of which this Attachment is a part, is effective as of 12:01 a.m., on the —— day of —, 19—.

For the U.S. Nuclear Regulatory Commission.

For————

By————

Dated at Bethesda, Maryland, the ———— day of——— 19—.

§ 140.108 Appendix H—Form of indemnity agreement with licensees possessing plutonium for use in plutonium processing and fuel fabrication plants and furnishing proof of financial protection in the form of the licensee's resources.

This Indemnity Agreement No. —— is entered into by and between —— (hereinafter referred to as the "licensee") and the United States Nuclear Regulatory Commission (hereinafter referred to as the "Commission") pursuant to subsection 170 c of the Atomic Energy Act of 1954, as amended (hereinafter referred to as "the Act"), and Section 201 of the Energy Reorganization Act of 1974, as amended.

ARTICLE I

As used in this agreement:

1. "Byproduct material," "person," "source material," "special nuclear material," and "extraordinary nuclear occurrence" shall have the meanings given them in the Atomic Energy Act of 1954, as amended, and the regulations issued by the Commission.

2. "Amount of financial protection" means the amount specified in Item 2 or the Attachment annexed hereto.

3. "Nuclear incident" means any occurrence including an extraordinary nuclear occurrence, or series of occurrences at the location or in the course of transportation causing bodily injury, sickness, disease, or death, or loss of or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of the radioactive material.

(b) Any occurrence, including an extraordinary nuclear occurrence of series of occurrences causing bodily injury, sickness, disease or death, or loss or damage to property, or loss of use of property, arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of

i. The radioactive material discharged or dispersed from the location over a period of days, weeks, months or longer and also arising out of such properties of other material defined as "the radioactive material" in any other agreement or agreements entered into by the Commission under subsection 170 c or k of the Act and so discharged or dispersed from "the location" as defined in any such other agreement, or

ii. The radioactive material in the course of transportation and also arising out of such properties of other material defined in any other agreement entered into the Commission pursuant to subsection 170 c or k of the Act as "the radioactive material" and which is in the course of transportation shall be deemed to be a common occurrence. A common occurrence whall be deemed to constitute a single nuclear incident.

4. "In the course of transportation" means in the course of transportation within the United States, or in the course of transportation outside the United States and any other nation, and moving from one person licensed by the Commission to another person licensed by the Commission, including handling or temporary storage incidental thereto, of the radioactive material to the location or from the location provided that:

(a) With respect to transportation of the radioactive material to the location, such transportation is not be predetermination to be interrupted by the removal of the material from the transporting conveyance for any purpose other than the continuation of such transportation to the location or temporary storage incidental thereto:

(b) The transportation of the radioactive material from the location shall be deemed to end when the radioactive material is removed from the transporting conveyance for any purpose other than the continuation of transportation or temporary storage incidental thereto:

(c) "In the course of transportation" as used in this agreement shall not include transportation of the radioactive material to the location if the material is also "in the course of transportaton" from any other "location" as defined in any other agreement entered into by the Commission pursuant to subsection 170 c or k of the Act.

5. "Person indemnified" means the licensee and any other person who may be liable for public liability.

6. "Public liability" means any local liability arising out of or resulting from a nuclear incident, except (1) claims under State or Federal Workmen's Compensation Acts of

employees of persons indemnified who are employed (a) at the location or, if the nuclear incident occurs in the course of transportation of the radioactive material, on the transporting vehicle, and (b) in connection with the licensee's possession, use or transfer of the radioactive material; (2) claims arising out of an act of war; (3) claims for loss of, or damage to, or loss of use of (a) property which is located at the location and used in connection with the licensee's possession, use, or transfer of the radioactive material, and (b) if the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle, containers used in such transportation, and the radioactive material.

42 FR 46

42 FR 46

7. "The location" means the location described in Item 4 of the Attachment hereto.

8. "The radioactive material" means (a) any source, special nuclear, or byproduct material which (1) is both used or to be used in, or is processed or to be processed by, the licensee's plutonium processing and fuel fabrication plant or plants and is subject to the license or licenses designated in the Attachment hereto, or (2) is produced as the result of the operation of said plant or plants or (b) any source special nuclear, or byproduct material which is waste or contamination from material described in paragraph 8(a). The words "used or to be used" and "processed or to be processed" in this paragraph cover source, special nuclear or byproduct material which is "in the course of transportation" as used in the agreement or is received at the plant for use or processing in the plant but which is, in fact, for any reason, not so used or processed.

9. "United States" when used in a geographical sense includes Puerto Rico and all territories and possessions of the United States.

45 FR 37410

ARTICLE II

1. The licensee undertakes and agrees to indemnify and hold harmless all persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the incident, the licensee agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the licensee under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation; and

(d) The radioactive material.

42 FR 46

3. Any obligations of the licensee under paragraphs 1 and 2 of this Article, and subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability shall not in the aggregate exceed the amount of financial protection with respect to any nuclear incident.

49 FR 11146

4. The obligations of the licensee under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

42FR46

5. Upon the expiration or revocation of any license designated in Item 3 of the Attachment, the Commission will enter into an appropriate amendment of this agreement with the licensee reducing the amount of financial protection required under this Article; provided, that the licensee is then entitled to a reduction in the amount of financial protection under applicable Commission regulations and orders.

6. With respect to any common occurrence, if the sum of the amount of financial protection established under this agreement and the amount of financial protection established under all other applicable agreements exceeds an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection, the obligations of the licensee described in paragraph 3 of this Article shall not exceed a greater proportion of an amount equal to the sum of $160,000,000 and the amount available as secondary financial protection than the amount of financial protection established under this agreement bears to the sum of such amount and the amounts of financial protection established under all other applicable agreements. As used in this paragraph, and in Article III, "other applicable agreements" means each other agreement entered into by the Commission pursuant to subsection 170c or k of the Act in which agreement the nuclear incident is defined as a "common occurrence."

44 FR 20632

7. The obligations of the licensee under this Article shall not be affected by any failure or default on the part of the Commission or the Government or the United States to fulfill any or all of its obligations under this agreement. Bankruptcy or insolvency of any person indemnified other than the licensee, or of the estate of any person indemnified other than the licensee shall not relieve the licensee of any of its obligations hereunder.

ARTICLE III

1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

2. With respect to damage caused by a nuclear incident to property of any person legally liable for the nuclear incident, the Commission agrees to pay to such person those sums which such person would have been obligated to pay if such property had belonged to another; provided, that the obligation of the Commission under this paragraph 2 does not apply with respect to:

(a) Property which is located at the location and used in connection with the licensee's possession, use or transfer of the radioactive material;

(b) Property damage due to the neglect of the person indemnified to use all reasonable means to save and preserve the property after knowledge of a nuclear incident;

(c) If the nuclear incident occurs in the course of transportation of the radioactive material, the transporting vehicle and containers used in such transportation;

(d) The radioactive material.

42 FR 46

3 [removed]

49FR11146

4(a) The obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other than such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed the amount of financial protection.

(b) With respect to a common occurrence, the obligations of the Commission under this agreement shall apply only with respect to such public liability and such damage to property of persons legally liable for the nuclear incident (other then such property described in the proviso to paragraph 2 of this Article) as in the aggregate exceed $160,000,000.

49 FR 11146

5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

6. The obligations of the Commission under this and all other agreements and contracts to which the Commission is a party shall not, with respect to any nuclear incident, in the aggregate exceed whichever of the following is the lowest; (a) $500,000,000; (b) $560,000,000 less the amount of financial protection required under this agreement; or (c) with respect to a common occurrence, $560,000,000 less the sum of the amounts of financial protection established under this agreement and all other applicable agreements.

7. The obligations of the Commission under this agreement, except to the licensee for damage to property of the licensee, shall not be affected by any failure on the part of the licensee to fulfill its obligations under this agreement. Bankruptcy or insolvency of the licensee or any other person indemnified, or of the estate of the licensee or any other person indemnified shall not relieve the Commission of any of its obligations hereunder.

42 FR 46

ARTICLE IV

1. When the Commission determines that the United States will probably be required to make indemnity payments under the provisions of this agreement, the Commission shall have the right to collaborate with the licensee and other persons indemnified in the settlement and defense of any claim (provided that no government indemnity that would otherwise be available to pay public liability claims is used for these purposes) and shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other persons indemnified for public liability or damage to property of persons legally liable for the nuclear incident which claim or action the licensee or the Commission may be required to indemnity under this agreement: and (b) to appear through the Attorney General of the United States on behalf of the licensee or other person indemnified, take charge of such action and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by the Commission, the licensee shall furnish all reasonable assistance in effecting a settlement or asserting defense.

49 FR 11146

2. Neither this agreement nor any interest therein nor claim thereunder may be assigned or transferred without the approval of the Commission.

42FR46

ARTICLE V

The parties agree that they will enter into appropriate amendments of this agreement to the extent that such amendments are required pursuant to the Atomic Energy Act of 1954, as amended, or licenses, regulations or orders of the Commission.

ARTICLE VI

The licensee agrees to pay the Commission such fees as are established by the Commission pursuant to regulations or orders of the Commission.

ARTICLE VII

The term of this agreement shall commence as of the date and time specified in Item 5 of the Attachment and shall terminate at the time of expiration of that license specified in Iem 3 of the Attachment, which is the last to expire; provided that, except as may otherwise be provided in applicable regulations or orders of the Commission, the term of this agreement shall not terminate until all the radioactive material has been removed from the location and transportation of the radioactive material from the location has ended as defined in paragraph 4(b), Article I. Termination of the term of this agreement shall not affect any obligation of the licensee or the Commission under this agreement with respect to any nuclear incident occurring during the term of this agreement.

UNITED STATES NUCLEAR REGULATORY COMMISSION

ATTACHMENT

Indemnity Agreement No. ————
Item 1—Licensee ————————
Item 2—Amount of financial protection—
Item 3—License number or numbers——
Item 4—Location ————————
Item 5—The indemnity agreement designated above, of which this Attachment is a part, is effective as of 12:01 a.m., on the —— day of —— 19—.
Dated at Bethesda, Maryland, the —— day of —— 19—.
For the U.S. Nuclear Regulatory Commission.
For————————————
By ————————————

42 FR 46

§140.109 Appendix I.

Nuclear Energy Liability Insurance Association

Master Policy No. ——

Nuclear Energy Liability Insurance

(Secondary Financial Protection)

Named Insured: Each person or organization designated in Item 1 of a *certificate*.

Policy Period: Beginning on the first day of August, 1977, and continuing to the effective date and time of the cancellation or other termination of this policy, eastern standard time.

Limits of Liability: The amount of retrospective premium actually received by the companies plus the amount of the companies' contingent liability, if any, pursuant to Conditions 2, 3, and 4.

Date of Issue————————
Authorized Representative ————————

In consideration of the payment of the annual premium, in reliance upon the statements in the *certificates* and subject to the limits of liability, conditions and other terms of this Master Policy, the undersigned members of Nuclear Energy Liability Insurance Association (hereinafter called the "companies"), each for itself, severally and not jointly, and in the respective proportions herein set forth, and the *insureds* named in the *certificates*, agree as follows:

INSURING AGREEMENTS

I. Nuclear Energy Liability Insurance

(Secondary Financial Protection)

To pay on behalf of or to the *insured* or to the *insured's* workers' compensation carrier all sums payable as *excess losses* to which this Master Policy applies.

II. Definitions

"*bodily injury*" means bodily injury, sickness or disease, including death resulting therefrom, sustained by any person.

"*certificate*" means a Certificate of Insurance, including Declarations and Bond for Payment of Retrospective Premiums, issued to be a part of this Master Policy.

"*common nuclear occurrence*" means any occurrence or series of occurrences causing *bodily injury* or *property damage* arising out of the radioactive, toxic, explosive, or other hazardous properties of *nuclear material*

(a) discharged or dispersed from a nuclear reactor described in Item 3 of a *certificate* over a period of days, weeks, months, or longer, or

(b) discharged or dispersed from a nuclear reactor described in Item 3 of a *certificate* over a period of days, weeks, months or longer and also arising out of such properties of *nuclear material* so discharged or dispersed from one or more other nuclear reactors described in Item 3 of other *certificates*, or

(c) in the course of transportation for which protection is afforded (or would be afforded but for exhaustion of its limit of liability) under the *primary financial protection* described in Item 4 of a *certificate* and also arising out of such properties of nuclear material in the course of transportation for which protection is afforded (or would be afforded but for exhaustion of its limit of liability) under the *primary financial pretection* described in Item 4 of one or more other *certificates*.

"*damages and claim expenses*" includes sums estimated by the companies to be payable under this policy and payments made by the companies under this Master Policy:

(a) in settlement of claims and in satisfaction of judgments against the *insureds* for damages because of *bodily injury* or *property damage*;

(b) for (1) costs taxed against an *insured* in any suit against the *insured* seeking damages payable under the terms of this Master Policy and interest on any judgment therein, (2) premiums on appeal bonds and bonds to release attachments in any such suit and (3) reasonable expenses, other than loss of earnings, incurred by the *insured* at the companies' request;

(c) for expenses incurred in the investigation, negotiation, settlement and defense of any claim or suit including, but not limited to, the cost of such services by salaried employees of the companies, fees and expenses of independent adjusters, attorneys' fees and disbursements, expenses for expert testimony, inspection and appraisal of property, examination, X-ray or autopsy or medical expenses of any kind;

(d) for expenses incurred by the companies in investigating a *nuclear incident* or in minimizing its effects;

(e) for all other expenses of the companies in fulfilling their obligations under this Master Policy, provided that such expenses are reasonable and necessary.

"*excess losses*" means all *damages and claim expenses*

(a) because of *bodily injury* or *property damage* to which a *certificate* applies, and

(b) which are excess of all sums paid or payable as estimated by the companies under all applicable *primary financial protection*.

"*extraordinary nuclear occurrence*" has the meaning given it in the Atomic Energy Act of 1954, or in any law amendatory thereof.

"*insured*" means any person or organization identified in Item 1 or 2 of a *certificate*.

"*nuclear incident*" means

(a) an *extraordinary nuclear occurrence*, or

(b) a *common nuclear occurrence*, or if neither of these,

(c) an occurrence or series of occurrences, including continuous or repeated exposure to substantially the same general conditions, causing *bodily injury* or *property damage* arising out of the radioactive, toxic, explosive, or other hazardous properties of *nuclear material*.

"*nuclear material*" means *source material*, *special nuclear material* or *byproduct material*.

"*primary financial protection*" means the insurance policies or other contracts identified in Item 4 of a *certificate* and

49 FR 11146

includes any amendment thereto which is consented to by the companies pursuant to Condition 6 of this Master Policy.

"property damage" means physical injury to or destruction or radioactive contamination of property, and loss of use of property so injured, destroyed or contaminated, and loss of use of property while evacuated or withdrawn from use because possibly so contaminated or because of imminent danger of such contamination.

"source material", "special nuclear material", and *"byproduct material"* have the meanings given them in the Atomic Energy Act of 1954, or in any law amendatory thereof.

III. Application of Policy

Insurance is provided by this Master Policy only through a *certificate*. No insurance is afforded with respect to *bodily injury* or *property damage* caused prior to August 1, 1977 by a *nuclear incident*.

CONDITIONS

1. Annual Premium

The named insureds designated in a *certificate* shall pay to the companies the annual premium for each calendar year or part thereof.

Such annual premium shall be determined by the companies and stated in a written notice mailed to the first named insured shown in Item 1 of a *certificate*, and shall be due and payable as stated in such notice.

49 FR 11146

2. Retrospective Premium

The named insureds designated in a *certificate* shall pay to the companies retrospective premium in the event of *excess losses* due to *bodily injury* or *property damage* caused during their *certificate* period by a *nuclear incident* arising out of or in connection with a nuclear reactor described in Item 3 of the *certificate* or in Item 3 of any other *certificate*. The amount of retrospective premium-due under each *certificate* shall be determined by multiplying such *excess losses* by the ratio of the maximum retrospective premium payable with respect to the *nuclear incident* under the *certificate* to the total of the maximum retrospective premiums payable with respect to the *nuclear incident* under all such *certificates*.

If any portion of the *bodily injury* or *property damage* to which this Master Policy applies is caused during any portion of a *certificate* period by a *nuclear incident*, the retrospective premium the named insureds designated in such *certificate* are obligated to pay shall be determined as if all *bodily injury* or *property damage* to which this Master Policy applies caused by the *nuclear incident* had been caused during the *certificate* period of such *certificate*.

The maximum retrospective premium that the named insureds designated in a *certificate* shall pay to the companies for all *excess losses* arising out of any one *nuclear incident* is the amount stated in Item 7 of their *certificate*.

In the event of two more *nuclear incidents*, the maximum amount of retrospective premium that shall be due from and payable by the named insureds in one calendar year shall not exceed twice the amount stated in Item 7 of their *certificate*. Any amount in excess thereof shall be paid in subsequent calendar years as billed by the companies.

In addition, an allowance for applicable premium taxes shall be determined by the companies and paid to them by the named insureds at the time retrospective premiums are due and payable.

After a *nuclear incident* resulting in *excess losses*, the companies shall mail to the first named insured designated in Item 1 of a *certificate* written notice of the retrospective premium and allowance for premium taxes then due under such *certificate*. Such notice shall also constitute notice to all other named insureds designated in such *certificate*. The named insureds shall pay directly to the Nuclear Energy Liability Insurance Association the retrospective premium and allowance for premium taxes stated in the notice. The notice shall specify a date no earlier than 60 days after mailing by which time payment is to be received by the Nuclear Energy Liability Insurance Association.

The companies shall at least annually review their estimate of *excess losses* arising out of the *nuclear incident* and shall adjust the retrospective premium and allowance for premium taxes accordingly. If the amount due from the named insureds is increased, written notice shall be mailed to the first named insured in accordance with the foregoing paragraph; if deceased the companies shall return the excess to the first named insured.

49 FR 11146

The obligation of the named insureds to pay retrospective premium and the allowance for premium taxes for *excess losses* arising out of a *nuclear incident* shall continue until the named insureds have paid the maximum retrospective premium stated in Item 7 of their *certificate* plus allowance for premium taxes.

The companies shall send to the Nuclear Regulatory Commission summaries of their estimates of *excess losses* arising out of the *nuclear incident* and their computations of retrospective premium and the allowance for premium taxes due.

All retrospective premium (but not the allowance for premium taxes) received by the companies is to be held by the companies separate from the companies' other assets and is to be used by the companies only for the purpose of paying *excess losses*. Any investment income received by the companies from such retrospective premium shall accrue to the benefit of the named insureds. This paragraph shall not apply to any retrospective premium received by the companies as reimbursement for any funds expended pursuant to Condition 4.

No commission will be paid with respect to retrospective premium and allowance for premium taxes.

3. Limit of Liability

Regardless of the number of

(a) persons or organizations who are *insureds* under this Master Policy, or

(b) claims made and suits brought against any and all *insureds*, or

(c) policies or contracts of *primary financial protection* or *certificates* which apply to the *nuclear incident*, or

(d) years this Master Policy and any *certificate* shall continue in force,

the total liability of the companies under this Master Policy for all *excess losses* arising out of any *nuclear incident* shall not exceed the amount of retrospective premium actually received by the companies pursuant to Condition 2 with respect to such *nuclear incident* plus the companies' contingent liability, if any, as determined by Condition 4. Reimbursement of the companies for funds expended pursuant to Condition 4 shall not operate to increase the total liability of the companies.

4. Contingent Liability of the Companies

The companies have a contingent liability under this Master Policy for payment of *excess losses* but only if, and to the extent that, the retrospective premium due under one or more *certificates* is not paid. In the event of any such failure to pay retrospective premiums, the companies' obligations under this Condition 4 are limited as follows:

Regardless of the number of *nuclear incidents* which cause *bodily injury* or *property damage* to which this Master Policy applies, the number of years this Master Policy is in force, the number of *certificates* issued or in effect, or the number of annual premiums paid or payable.

(a) the total contingent liability of the companies for all *excess losses* arising out of two or more *nuclear incidents* shall not exceed $46,500,000;

(b) subject to the above provision (a), the total contingent liability of the companies for all *excess losses* arising out of any one *nuclear incident* shall not exceed $23,250,000;

(c) subject to the above provisions (a) and (b), the maximum amount to be paid by the companies in any one calendar year because of contingent liability for *excess losses* shall not exceed $23,250,000.

49 FR 11146

If a named insured designated in a *certificate* shall become insolvent or be adjudged bankrupt, the companies' obligation under this Condition 4 shall not apply to the failure of any named insured designated in such *certificate* to pay retrospective premium with respect to *excess losses* because of *bodily injury* or *property damage* caused after the date of such insolvency or bankruptcy.

5. Investigation, Defense or Settlement of Claims or Suits

Subject to the provisions of any written agreement between the companies and the Nuclear Regulatory Commission, the companies shall defend any claim or suit alleging *bodily injury* or *property damage* caused by a *nuclear incident* and seeking damages which are payable under this Master Policy, and may make such investigation and settlement of any claim or suit as they deem expedient. In no event shall the companies be obligated to pay any claim or judgment or to defend any claim or suit after the companies have paid the amount of retrospective premium actually received for *excess losses* arising out of the *nuclear incident* plus the amount of their contingent liability, if any.

6. Primary Financial Protection

Regardless of the number of policies or contracts of *primary financial protection* applicable to a *nuclear incident*, the limit of liability of all such policies or contracts shall be deemed to be exhausted when the sums paid under all such policies or contracts are equal to the lesser of (1) the sum of the limits of liability available under all such primary financial protection or (2) one hundred forty million dollars.

The named insured designated in a *certificate* shall maintain in full effect during the currency of such *certificate* the *primary financial protection* described therein, except for any reduction of the limit of liability of such *primary financial protection* solely as the result of sums paid thereunder. Failure of the named insureds to comply with the foregoing shall not invalidate this Master Policy, but in the event of such failure the companies shall be liable only to the extent that they would have been liable and the named insureds complied therewith.

In the event that the limit of liability of the *primary financial protection* is reduced, such names insureds shall immediately inform the companies thereof and make all reasonable efforts to reinstate such limit.

Upon the companies' request the named insureds shall provide the companies with a certified copy of any policy or other contract of *primary financial protection.* No amendment of the *primary financial protection* shall increase, extend or broaden the insurance provided by this Master Policy unless the companies agree to the amendment by an endorsement issued to form a part of this Master Policy.

7. Interest To Be Paid by Named Insured on Retrospective Premium and Allowance for Premium Taxes in Default

If retrospective premium or allowance for premium taxes is not paid when due by the named insureds designated in Item 1 of a *certificate,* such named insureds shall be obligated to pay, in addition to the amount in default, interest thereon during the period of default. Such interest shall be computed at an annual rate equal to the sum of (a) three percent plus (b) a rate of interest equal to Moody's Average Public Utility Bond Yield described in the issue of Moody's Bond Survey current on the date that the retrospective premium and allowance for premium taxes were due. The annual rate of interest shall be adjusted monthly during the period of default to reflect any revisions of Moody's Average Public Utility Bond Yield described in the issue of Moody's Bond Survey current on the first business day of each such month.

49 FR 11146

The interest so received shall be used to pay to. the companies interest at the annual rate described above for any funds the companies have paid pursuant to Condition 4. Any balance remaining shall accrue to the benefit of named insureds not in default as if it were investment income on retrospective premium.

8. Notice of Nuclear Incident, Claim or Suit

In the event of *bodily injury* or *property damage* to which this Master Policy applies or of a *nuclear incident* which may give rise to claims therefor, written notice containing particulars sufficient to identify the *insured* and also reasonably obtainable information with respect to the time, place and circumstances thereof, and the names and addresses of the injured and of available witnesses, shall be given by or for the *insured* to Nuclear Energy Liability Insurance Association or the companies as soon as practicable. If claim is made or suit is brought against the *insured,* the *insured* shall immediately forward to Nuclear Energy Liability Insurance Association or the companies every demand, notice, summons or other process received by or on behalf of the *insured.*

9. Assistance and Cooperation of the Insured

The *insured* shall cooperate with the companies and, upon the companies' request, attend hearings and trials and assist in making settlements, in securing and giving evidence, in obtaining the attendance of witnesses and in the conduct of any legal proceedings in connection with the subject matter of this insurance. The *insured* shall not, except at the *insured's* own cost, make any payment, assume any obligation or incur any expense.

10. Action Against Companies

No action shall lie against the companies or any of them unless, as a condition precedent thereto, the *insured* shall have fully complied with all the terms of this Master Policy, nor until the amount of the *insured's* obligation to pay shall have been finally determined either by judgment against the *insured* after actual trial or by written agreement of the *insured,* the claimant and the companies.

Any person or organization or the legal representative thereof who has secured such judgment or written agreement shall thereafter be entitled to recover under this Master Policy to the extent of the insurance afforded by this Master Policy. No person or organization shall have any right under this Master Policy to join the companies or any of them as parties to any action against the *insured* to determine the *insured's* liability, nor shall the companies or any of them be impleaded by the *insured* or the *insured's* legal representative. Except as provided in Condition 4, bankruptcy or insolvency of the *insured* or of the *insured's* estate shall not relieve the companies of any of their obligations hereunder.

49 FR 11146

11. Subrogation

In the event of any payment under this Master Policy, the companies may participate with the *insured* and any underlying insurer in the exercise of all the *insured's* rights of recovery against any person or organization liable therefor. Prior to knowledge of *bodily injury* or *property damage* to which this Master Policy applies or of a *nuclear incident* which may give rise to claims therefor, the *insured* may waive in writing any right of recovery against any person or organization. After such knowledge, the *insured* shall not waive or otherwise prejudice any such right of recovery but shall do everything necessary to secure such rights. Recoveries shall be applied first to reimburse any person or organization (including the *insured)* that may have paid any amount with respect to liability in excess of the limit of the companies' liability hereunder; then to reimburse the companies up to the amount paid hereunder; and lastly to reimburse anyone entitiled to claim the residue, if any. A different apportionment maybe made by agreement signed by all parties affected.

Reasonable expenses incurred in the exercise of rights of recovery shall be apportioned in the ratio of the respective losses for which recovery is sought. The companies shall, after deducting all of their expenses in securing recovery, apply the net amount of recoveries made by the companies as a credit in determining the amount of *excess* losses.

12. Other Insurance

This insurance shall be excess insurance over *primary financial protection.*

This insurance is concurrent with insurance afforded by a Master Policy—Nuclear Energy Liability Insurance (Secondary Financial Protection) issued to the named insured by Mutual Atomic Energy Liability Underwriters, hereinafter called "concurrent insurance." The companies shall not be liable under this Master Policy for a greater proportion of *excess losses* than the applicable limit of liability described in Condition 3 bears to the sum of (a) such limit plus (b) the applicable limit of liability of such concurrent insurance.

If the *insured* has other valid and collectible insurance (other than *primary financial protection* or concurrent insurance) applicable to *excess losses* covered by this Master Policy, the insurance afforded by this Master Policy shall be primary insurance under such other insurance.

13 Changes

Notice to any agent or knowledge possessed by any agent or by any other person shall not effect a waiver or a change in any part of this Master Policy or estop the companies from asserting any right under the terms of this Master Policy; nor shall the terms of this Master Policy be waived or changed, except by endorsement executed by Nuclear Energy Liability Insurance Association on behalf of the companies and issued to form a part of this Master Policy.

14. Assignment

Assignment of interest by the named insured shall not bind the companies until their consent is endorsed hereon; if, however, the named insured shall die or be declared bankrupt or insolvent, this Master Policy shall cover such named insured's legal representative, receiver or trustee as an *insured* under this Master Policy, but only with respect to such legal representative's, receiver's or trustee's liability as such, and then only provided written notice of the legal representative's, receiver's or trustee's appointment as such is given to the companies within ten days after such appointment.

49 FR 11146

15. Custodian of the Policy—Nuclear Regulatory Commission

The named insureds have designated the Nuclear Regulatory Commission as the custodian of this Master Policy and any endorsements thereto.

16. Cancellation

The first named insured designated in Item 1 of a *certificate* may cancel such *certificate* by mailing to the companies and the Nuclear Regulatory Commission written notice stating when, not less than thirty days thereafter, such cancellation shall be effective.

The companies may cancel any *certificate* by mailing to the first named insured designated in Item 1 of such *certificate* written notice stating when, not less than ninety days thereafter, such cancellation shall be effective; provided that in the event of non-payment of any annual premium, retrospective premium or allowance for premium taxes due under a *certificate,* such *certificate* may be canceled by the companies by mailing to the first named insured designated therein written notice stating when, not less than thirty days thereafter, such cancellation shall be effective.

The mailing of notice as aforesaid shall be sufficient proof of notice. The effective date and time of cancellation stated in the notice shall become the end of the *certificate* period Delivery of such written notice, either by the first named insured designated in Item 1 of a *certificate* or by the companies, shall be equivalent to mailing.

A copy of the companies' cancellation notice shall be mailed to the Nuclear Regulatory Commission, but mailing such copy is not a condition of cancellation.

If a *certificate* is canceled, the earned portion of the annual premium shall be computed pro-rata. Adjustment of the annual premium, if any, may be made either at the time cancellation is effective or as soon as practicable after cancellation becomes effective, but payment or tender of unearned premium is not a condition of cancellation.

Cancellation or termination of any *certificate* shall not terminate the obligation of a named insured to pay retrospective premium and the allowance for premium taxes as provided in such named insured's *certificate* and Condition 2 of this Master Policy.

This Master Policy shall terminate automatically on the effective date and time of cancellation or termination of the last *certificate* in effect.

17. Company Representation

(a) Any notice, sworn statement or proof of loss which may be required by the provisions of this Master Policy may be given to any one of the companies, and such notice, statement or proof of loss so given shall be valid and binding as to all companies.

49 FR 11146

(b) In any action or suit against the companies, service of process may be made on any one of them and such service shall be deemed valid and binding service on all companies.

(c) Nuclear Energy Liability Insurance Association is the agent of the companies with respect to all matters pertaining to this insurance. All notices or other communications required by this Master Policy to be given to the companies may be given to such agent, at its office at The Exchange, Suite 245, 270 Farmington Avenue, Farmington, Connecticut—06032 with the same force and effect as if given directly to the companies. Any requests, demands or agreements made by such agent shall be deemed to have been made directly by the companies.

18. Authorization of First Named Insured

Except with respect to compliance with the obligations imposed on the *insured* by Conditions 8, 9, 10 and 11 of this Master Policy, the first named insured designated in Item 1 of a *certificate* is authorized to act for every other person and organization insured under such *certificate* in all matters pertaining to this insurance.

19. Changes in Subscribing Companies and in Their Proportionate Liability

The members of Nuclear Energy Liability Insurance Association subscribing this Master Policy, and the proportionate liability of each, may change from time to time.

Each company subscribing this Master Policy upon its issuance shall be liable only for its stated proportion of any obligation assumed or expense incurred under this Master Policy because of *bodily injury* or *property damage* caused during the period from the effective date of this Master Policy to the close of December 31 next following. For each subsequent calendar year, beginning January 1 next following the effective date of this Master Policy, the subscribing companies and the proportionate liability of each such company shall be stated in an endorsement issued to form a part of this Master Policy, duly executed by the President of Nuclear Energy Liability Insurance Association on behalf of each such company, and mailed or delivered to the Nuclear Regulatory Commission.

20. Declarations

By acceptance of this Master Policy, the named insureds designated in a *certificate* agree that the statements in such *certificate* are their agreements and representations, that this Master Policy and such *certificate* are issued in reliance upon the truth of such representations and that this Master Policy and such *certificate* embody all agreements between such named insureds and the companies or any of their agents relating to this insurance.

In witness whereof each of the subscribing companies has caused this Master Policy to be executed on its behalf by the Nuclear Energy Liability Insurance Association and duly countersigned on the first page by an authorized representative.

For the Subscribing Companies of
NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION
By:
Burt C. Proom,
President.

49 FR 11146

NUCLEAR ENERGY LIABILITY INSURANCE ASSOCIATION

Certificate No. ——————
Forming Part of Master Policy No. ——————

Certificate of Insurance Declarations and Bond for Payment of Retrospective Premiums

Certificate of Insurance

This is to certify that the persons and organizations designated in Item 1 of the Declarations are named insureds under the Master Policy—Nuclear Energy Liability Insurance (Secondary Financial Protection), herein called the "Master Policy," issued by Nuclear Energy Liability Insurance Association.

Such insurance as is provided by the Master Policy applies, through this *certificate*, only:

(a) to the *insureds* identified in Items 1 and 2 of the Declarations,

(b) for the *certificate* period stated in Item 6 of the Declarations,

(c) to *bodily injury* or *property damage*

(1) with respect to which the *primary financial protection* described in Item 4 of the Declarations would apply but for exhaustion of its limit of liability as described in Condition 6 of the Master Policy, and

(2) which is caused during the *certificate* period stated in Item 6 of the Declarations by a *nuclear incident* arising out of or in connection with the nuclear reactor described in Item 3 of the Declarations, and

(3) which is discovered and for which written claim is made against the *injured* not later than ten years after the end of the *certificate* period stated in Item 6 of the Declarations. However, with respect to *bodily injury* or *property damage* caused by an *extraordinary nuclear occurrence* this subparagraph (3) shall not operate to bar coverage for *bodily injury* or *property damage* which is discovered and for which written claim is made against the *insured* not later than twenty years after the date of the *extraordinary nuclear occurrence*.

Declarations

Item 1. Named insureds and addresses:
(a)
(b)

Item 2. Additional *insureds:*

Any other person or organization who would be insured under the *primary financial protection* identified in Item 4 of the Declarations but for exhaustion of the limit of liability of such *primary financial protection*.

Item 3. Description and location of nuclear reactor:

Item 4. (a) Identification of *primary financial protection* applicable to the nuclear reactor and limit(s) of liability thereof:

Nuclear Energy Liability Insurance Association's Policy NF– $108,500,000
Mutual Atomic Energy Liability Underwriters' Policy MF– $31,500,000

(b) The following endorsements, attached to the *primary financial protection* policies listed in Item 4(a) also apply to the insurance afforded by the Master Policy through this *certificate* as though they were attached hereto:

(1) Waiver of Defense Endorsement (Extraordinary Nuclear Occurrence) and

(2) Supplementary Endorsement—Waiver of Defenses—Reactor Construction at the Facility.

(c) The limits of liability provided under the *primary financial protection* specified in Item 4(a) above are not shared with any other reactor except as follows:

49 FR 11146

Item 5. Limits of Liability: The amount of retrospective premium actually received by the companies plus the amount of the companies' contingent liability, if any, pursuant to Conditions 2, 3 and 4 of the Master Policy.

Item 6. *Certificate* Period: Beginning at 12:01 a m. on —————— and continuing to the effective date and time of cancellation or termination of the Master Policy or this *certificate*, whichever first occurs, eastern standard time.

Item 7. Maximum retrospective premium (exclusive of allowance for premium taxes) payable pursuant to Condition 2 of the Master Policy with respect to each *nuclear incident:* $3,875,000.

Item 8. Premium payable pursuant to Condition 1 of the Master Policy for the period from —————— through December 31 following: $———.

BOND FOR PAYMENT OF RETROSPECTIVE PREMIUMS

Know All Men By These Presents, that the undersigned do hereby acknowledge that they are named insureds under the Master Policy described in the above Certificate of Insurance and Declarations. The named insureds do hereby convenant with and are held and are firmly bound to the members of Nuclear Energy Liability Insurance Association subscribing the Master Policy (hereinafter called the "companies") to pay the companies all retrospective premiums and allowances for premium taxes which shall become due and payable in accordance with the Master Policy, as it may be changed from time to time, with interest on such premiums and allowances for taxes to be computed at the rate provided in the Master Policy from the date payment thereof is specified to be due the companies in written notice to the first named insured as provided in Condition 2 of the Master Policy until paid:

And it is hereby expressly agreed that copies of written notices of retrospective premiums and allowances for premium taxes due and payable or other evidence of such amounts due and payable sworn to by a duly authorized representative of the companies shall be prima facie evidence of the fact and extent of the liability of the named insureds for such amounts;

And it is further expressly agreed that the named insureds will indemnify the companies against any and all liability, losses and expenses of whatsoever kind or nature (including but not limited to interest, court cost, and counsel fees) which the companies may sustain or incur (1) by reason of the failure of the named insureds to comply with the convenants and provisions of this Bond and (2) in enforcing any of the convenants or provisions of this Bond, or any provisions of the Master Policy relating to such convenants or provisions;

For the purpose of recording this agreement, a photocopy acknowledged before a Notary Public to be a true copy hereof shall be regarded as an original.

The preceding Certificate of Insurance, Declarations and Bond form a part of the Master Policy. Cancellation or termination of the Master Policy or the Certificate of Insurance shall not affect the named insured's obligations under the policy or the Bond to pay the retrospective premiums and allowances for premium taxes, as provided in this *Certificate* and Condition 2 of the Master Policy.

In witness whereof, the named insureds have caused the Declaration and the Bond for Payment of Retrospective Premiums to be signed and sealed by a duly authorized officer, to be effective ———— eastern standard time.

Attest or Witness
Named Insureds:
By ————————
(Seal)
(Signature of Officer)

————————
(type or print Name & Title of Officer)
Date: ————————

In witness whereof, the companies subscribing the Master Policy have caused the Certificate of Insurance and the Declarations to be signed on their behalf by the President of Nuclear Energy Liability Insurance Association to be effective ———— eastern standard time, and countersigned below by a duly authorized representative.

For the Subscribing Companies of Nuclear Energy Liability Insurance Association.
By: President ————————
Countersigned by ————————
(Authorized Representative)

49 FR 11146

30 FR 1015

Interim Financial Protection and Annual Indemnity Fees With Respect to Spent Fuel Processing Plant

On April 30, 1963, the Commission issued a provisional construction permit under section 104b. of the Atomic Energy Act of 1954, as amended (the Act), to Nuclear Fuel Services, Inc. (NFS) and the New York State Atomic Research and Development Authority for the construction of a production facility for the chemical processing of irradiated fuel elements in Cattaraugus County, N.Y. NFS is constructing and proposes to operate the facility and has applied for a license to receive and store irradiated fuel at the site early in 1965.

Section 170 of the Act provides that each license issued under section 104 shall have, as a condition of the license, a requirement that the licensee have and maintain financial protection of such type and in such amounts as the Commission shall require to cover public liability claims; that the licensee execute and maintain an indemnification agreement with the Commission; and that the Commission collect a fee from each licensee with whom an indemnification agreement is executed. The Commission's regulations in 10 CFR Part 140 prescribe the financial protection and indemnity fee requirements for reactors, but not for spent fuel processing plants.

On May 26, 1964, the Commission published in the FEDERAL REGISTER (29 F.R. 6862) a notice of proposed rule making which (a) proposed establishing, on an interim basis, the amount of financial protection and amount of indemnity fee for the NFS plant; (b) invited public comment on such proposed action; and (c) invited public comments and suggestions regarding criteria for determining amounts of financial protection and indemnity fees for spent fuel processing plants generally.

30 FR 1015

The published notice proposed the establishment of an interim financial protection requirement for the NFS facility of $20 million, and an interim indemnity fee of $4,000 per year. The notice also proposed an interim financial protection requirement of $5 million for preoperational storage of spent fuel at the site.

In arriving at the interim amount of financial protection in the notice of proposed rule making, the Commission took into account, in addition to the specific statutory criteria, the following considerations: (a) amounts of liability insurance now being carried by fabricators of cold fuel; (b) liability insurance limits carried by firms engaged in hazardous operations in non-nuclear industries, i.e., chemicals and petroleum; and (c) the maximum amount of nuclear liability insurance currently available ($60 million).

Pending the development of generally applicable criteria, the Commission has decided to establish, on an interim basis, the following financial protection levels and indemnity fees for the NFS facility: (a) financial protection—$5 million for preoperational storage of fuel and $20 million for plant operations, and (b) annual indemnity fee—$500 for storage only of fuel, and $4,000 for plant operations. The indemnity fee for storage only, which was not included in the notice of proposed rule making, is an extrapolation from the fee schedule set forth in 10 CFR Part 140 for storage only of fuel at reactor sites.

Inasmuch as NFS has been advised of the $500 amount and has agreed to it, the Commission has found that notice of proposed rule making and public procedure on the establishment of the amount of the interim fee for storage only of fuel at the NFS site are unnecessary.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the proposed interim levels of financial protection and annual indemnity fees, set forth above, are established for the NFS facility, to be effective thirty (30) days after publication of this notice in the FEDERAL REGISTER.

Published January 30, 1965

36 FR 17979

Establishment of Interim Amounts of Financial Protection and Interim Indemnity Fees for General Electric Company Midwest Fuel Recovery Plant

Following a public hearing on November 28, 1967, before an atomic safety and licensing board, the Atomic Energy Commission, on December 28, 1967, issued to the General Electric Company (GE, a provisional construction permit under section 104b of the Atomic Energy Act of 1954, as amended (the Act), for the construction of a production facility for the chemical processing of irradiated fuel elements. GE is constructing and proposing to operate the Midwest Fuel Recovery Plant (MFRP) on property it owns in Grundy County, Ill. The GE facility was the second spent fuel reprocessing plant for which the Commission has issued a construction permit. In April 1963, the Commission issued a provisional construction permit and in April 1966 a provisional operating license, to Nuclear Fuel Services Inc. (NFS), and the New York State Atomic and Space Development Authority for construction and operation of the NFS spent fuel reprocessing facility in Cattaraugus County, N.Y.

Section 170 of the Act provides that each license issued under section 104 shall have as a condition of the license a requirement that the licensee have and maintain financial protection of such type and in such amounts as the Commission shall require to cover public liability claims; that the licensee execute and maintain an indemnification agreement with the Commission; and that the Commission collect a fee from each licensee with whom an indemnification agreement is executed.

The Act also provides that the amount of financial protection required shall be equal to the maximum amount of nuclear liability insurance available from private sources except that the Commission may establish a lesser amount on the basis of written criteria, taking into consideration such factors as (1) the cost and terms of private insurance; (2) the type, size, and location of the licensed activity and other factors pertaining to the hazards; and (3) the nature and purpose of the licensed activity.

The indemnity fee is set by the Act (section 170f) at $30 per thousand kilowatts of thermal energy capacity for facilities licensed under section 103, but for facilities licensed under section 104, and for construction permits under section 185, the Commission is authorized to reduce this fee. The Commission is directed to establish written criteria for

36 FR 17979

determination of the fee taking into consideration such factors as (1) the type, size, and location of the facility involved, and other factors pertaining to the hazard, and (2) the nature and purpose of the facility. The Commission's regulations in 10 CFR Part 140 prescribe criteria for determining the amounts of financial protection and indemnity fees with specific reference to reactors. No similar criteria have been prescribed for other types of facilities such as spent fuel reprocessing plants because the number and variety of such facilities, operating or under construction, have been insufficient to permit identification of relationships between different facilities at different locations significant to the establishment of corresponding financial protection requirements.

On March 2, 1965, the Commission published in the FEDERAL REGISTER a notice which established, on an interim basis, the amounts of financial protection and indemnity fees for the NFS plant for both preoperational storage of fuel at the site and for plant operations. The interim levels for NFS, which are to remain in effect pending further study and development of a formula having general applicability to spent fuel reprocessing plants, were established at (1) $5 million of financial protection for preoperational storage of fuel and $20 million of financial protection for plant operation; (2) an annual indemnity fee of $500 for preoperational storage of fuel and of $4,000 for plant operation.

In addition to the factors specifically designated in the Act, the Commission also took into account in setting an interim amount of financial protection for NFS, the amounts of nuclear liability insurance carried by fabricators of irradiated fuel and the amounts of insurance carried by a substantial number of firms engaged in nonnuclear chemical and petroleum industries.

Since NFS received an operating license for full-scale plant operation in April 1966, the operating experience for the purpose of determining a broad formula for establishing a level of financial protection for licensed spent fuel reprocessing plants is still quite limited. The Commission's review of the MFRP license application has similarly not yielded sufficient information to assist in developing a generally applicable formula for spent fuel reprocessing plants.

On February 18, 1971, the Atomic Energy Commission published in the FEDERAL REGISTER (36 F.R. 3131) a notice of proposed establishment, on an interim basis, of financial protection and interim indemnity fees for the General Electric Co. Midwest Fuel Recovery Plant. The interim financial protection requirements for MFRP would be $5 million for preoperational storage of fuel and $20 million for plant operation, the same as that established for NFS. The interim annual indemnity fees of $500 for storage of fuel and $4,000 for plant operation established for NFS would also be extended to MFRP.

Interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendment within 60 days after publication of the notice in the FEDERAL REGISTER. No comments objecting to the proposed amounts and fees were received. The only comment received was from the General Electric Co. stating that it found the proposed financial protection and indemnity fees acceptable and within those intended under the Price-Anderson Act. The letter also offered comments for the purpose of assisting the AEC in formulating general criteria for financial protection requirements for spent fuel reprocessing plants.

Pending the development of generally applicable criteria, the Commission has decided to establish, on an interim basis, the same financial protection levels and indemnity fees for the MFRP which it established on an interim basis for NFS, i.e., amounts of financial protection of $5 million for preoperational storage of fuel and $20 million for plant operation and annual indemnity fees of $500 for storage of fuel and $4,000 for plant operation.

In setting the interim amount of financial protection for the MFRP, the Commission took into account, in addition to the factors specifically designated in subsection 170.b of the Act, the amounts of nuclear liability insurance carried by fabricators of unirradiated fuel, the amounts of insurance carried by a substantial number of firms engaged in nonnuclear chemical and petroleum industries, the interim amount of financial protection set for NFS, and the maximum nuclear liability insurance currently available (now $82 million).

In setting the interim indemnity fee for the MFRP, the Commission took into account, in addition to the factors specifically designated in subsection 170.f of the Act, the indemnity fees for other licensed facilities, including NFS.

The Commission again invites comments and suggestions from interested persons as to the factors that should be considered in establishing generally applicable criteria for determining amounts of financial protection to be required for spent fuel processing plants. Comments on criteria will be considered in the Commission's continuing review of this subject. All interested parties who desire to submit written comments and suggestions with regard to such criteria should send them to the Secretary of the Commission, United States Atomic Energy Commission, Washington, D.C. 20545, Attention: Chief, Public Proceedings Branch, within 120 days after publication of this notice in the FEDERAL REGISTER.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the proposed interim levels of financial protection and annual indemnity fees set forth above are established for the MFRP facility to be effective thirty (30) days after publication of this notice in the FEDERAL REGISTER.

Published September 8, 1971

Establishment of Interim Amount of Financial Protection and Indemnity Fee

40 FR 12858

On December 19, 1974, the Atomic Energy Commission published in the FEDERAL REGISTER (39 FR 43867) a proposed rule to establish the interim amount of financial protection and interim indemnity fee for the Barnwell Nuclear Fuel Plant (BNFP) presently under construction by Allied-General Nuclear Services (AGNS) in Barnwell, South Carolina. The Atomic Energy Commission issued a construction permit to AGNS for the construction of the Barnwell reprocessing facility in December 1970. Financial protection and indemnity fee amounts are established on an interim basis pending establishment in a later rule making of permanent levels of financial protection and indemnity fees for all reprocessing plants.

On October 11, 1974 the Energy Reorganization Act of 1974[1] was enacted into law. This Act abolished the Atomic Energy Commission and, by section 201 established the Nuclear Regulatory Commission and transferred to that Commission all of the licensing and related regulatory functions of the Atomic Energy Commission. In addition, section 301 of the Energy Reorganization Act provided that any proceedings pending before the AEC at the time of its abolition shall, to the extent that such proceedings relate to functions transferred by the Act, be continued.

Interested persons were invited to submit written comments and suggestions in connection with the proposed amendment by January 20, 1975. No comments were received by either AEC or NRC; therefore the Nuclear Regulatory Commission has adopted the proposed amendment without any changes.

Section 170 of the Atomic Energy Act of 1954, as amended, ("the Act") requires (1) Each license issued under section 104 for medical therapy and research and development reactors to have as a condition of the license a requirement that the licensee have and maintain financial protection of such type and in such amounts as the Commission shall require to cover public liability claims, (2) the licensee to execute and maintain an indemnification agreement with the Commission and (3) the Commission to collect a fee from each licensee with whom an indemnification agreement is executed.

Subsection 170b. of the Act provides that the amount of financial protection required of such licensees shall be equal to the maximum amount of nuclear liability insurance available from private sources except that the Commission may establish a lesser amount on the basis of written criteria, taking into consideration such factors as (1) The cost and terms of private insurance; (2) the type, size, and location of the licensed activity and other factors pertaining to the hazard; and (3) the nature and purpose of the licensed activity.

The annual indemnity fee set by subsection 170f. of the Act is $30 per thousand kilowatts of thermal energy capacity for commercial facilities licensed under section 103. However, for facilities licensed under section 104, and for construction permits issued under section 185, the Commission is authorized to reduce this fee. The Commission is directed to establish written criteria for determination of the fee, taking into consideration such factors as (1) The type, size, and location of the facility involved, and other factors pertaining to the hazard, and (2) the nature and purpose of the facility.

The Commission's regulations in 10 CFR Part 140 prescribe criteria for determining the amounts of financial protection and indemnity fees with specific reference to reactors. No similar criteria have been adopted for other types of facilities, such as reprocessing plants.

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[1] Pub. L. 93-438 (88 Stat. 1233).

The Commission has previously established financial protection requirements for two fuel reprocessing facilities, the Nuclear Fuel Services, Inc., Reprocessing plant and the General Electric Company's Midwest Fuel Recovery Plant. Financial protection requirements for both facilities were set by the Commission at $5 million for the preoperational storage of fuel and $20 million for plant operations, with an annual indemnity fee of $500 for storage only of fuel and $4,000 for plant operations.

These financial protection requirements were established on an interim basis since there was not sufficient experience or data available to prescribe financial protection requirements for reprocessing plants as a class. In arriving at the interim amounts, the Commission took into account, in addition to the specific statutory criteria, the following considerations: (a) amount of liability insurance carried by fabricators of cold fuel; (b) liability insurance limits carried by firms engaged in hazardous operations in nonnuclear industries, i.e., chemicals and petroleum; and (c) the maximum amount of nuclear liability insurance available (at that time, $60 million).

The Commission recognizes that there is an ongoing licensing proceeding with respect to the Barnwell Nuclear Fuel Plant pending before an Atomic Safety and Licensing Board. No license will be issued except in accordance with applicable Commission regulations. This rule merely provides the basis for financial protection requirements in the event that a license should be issued.

40 FR 12858

As a production facility, the Barnwell plant cannot be licensed to receive fuel assemblies unless Allied-General Nuclear Services provides financial protection to protect against public liability arising out of or resulting from a nuclear incident. Pending establishment in a rule making proceeding of financial protection and indemnity fee requirements for reprocessing facilities as a class, notice is hereby given that the Commission has established interim financial protection requirements of $5 million for fuel storage with an annual indemnity fee of $500 at the Barnwell plant. Rule making proceedings on permanent levels of financial protection to be required for all reprocessing plants should be completed by the time the construction of the plant is completed.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and sections 552 and 553 of title 5 of the United States Code, the interim level of financial protection and the annual indemnity fee, set forth above, are established for the Barnwell facility.

Effective date. The foregoing rule becomes effective on April 20, 1975.

Published March 21, 1975

PART 140

FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

PROPOSED RULE MAKING

➢ 50 FR 13978
Published 4/9/85
Comment period expires 8/7/85

10 CFR Part 140

Criteria for an Extraordinary Nuclear Occurrence

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is considering amending its regulations to revise the criteria for an "extraordinary nuclear occurrence" (ENO). If a nuclear incident were found by the Commission to be an "extraordinary nuclear occurrence," several legal defenses would be waived including the necessity of persons with damage claims to prove negligence. The proposed changes are designed to simplify the administrative criteria used by the Commission in making an ENO determination and to avoid the problems encountered by the Commission in applying the existing criteria to the accident at the Three Mile Island nuclear plant (TMI). These proposed changes will affect applicants for and holders of NRC licenses for production and utilization facilities and other persons indemnified as to such facilities.

DATE: The comment period expires on August 7, 1985. Comments received after that date will be considered if it is practical to do so, but assurance of consideration cannot be given unless the comments are filed on or before that date.

ADDRESSES: All interested persons who desire to submit written comments or suggestions in connection with this proposed rule should send them to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch. Copies of all documents received may be examined and copied in the Commission's Public Document Room at 1717 H Street NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: H.T. Peterson, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone (301) 427–4578.

SUPPLEMENTARY INFORMATION:

I. Background

In the event of a nuclear incident, claims for injuries or damages can be brought against the plant licensee and other parties considered responsible for the incident. The Price-Anderson provisions of the Atomic Energy Act (AEA) of 1954, as amended, (section 170) provide a system of private insurance and electric utility funds totaling over $560 million to pay pay public liability claims. One of the principal obstacles to a claimant's recovery for injuries or damages could be the necessity for the claimant to prove negligence on the part of the defendants or the absence of contributory negligence on the part of the claimant. Congress attempted to remove this obstacle in 1966 by amending the Price-Anderson Act to require the waiver of certain defenses by an indmnified person when the nuclear accident magnitude "triggered" the ENO criteria.

When the Commission determines that a nuclear incident is an "extraordinary nuclear occurrence" within the meaning of the Act and the Commission's regulations, the waiver of defenses provisions contained in the insurance policies and indemnity agreements implementing the Price-Anderson system are activated. As provided by section 170n(1) of the Atomic Energy Act of 1954, as amended, the waived defenses include:

(i) Any issue or defense as to the conduct of the claimant or fault of persons indemnified,

(ii) Any issue or defense, as to charitable or governmental immunity, and

(iii) Any issue or defense based on any statute of limitation if suit is instituted within three years from the date on which the claimant first knew, or reasonably could have known, of his injury or damage and the cause thereof, but in no event more than twenty years after the date of the nuclear incident.

The waivers of defenses, once triggered by an ENO determination by the Commission, relieve the claimant of having to prove negligence by a defendant and of having to disprove defenses such as contributory negligence. Whether or not an ENO is declared, however, a claimant would still have to prove: (a) Personal injury or damage, (b) amount of monetary loss, and (c) the causal link between the claimant's loss and the radioactive material released.

The term "extraordinary nuclear occurrence" is defined by section 11(j) of the Atomic Energy Act as follows:

> The term "extraordinary nuclear occurrence" means any event causing a discharge or dispersal of source, special nuclear, or byproduct material from its intended place of confinement in amounts offsite, or causing radiation levels offsite, which the Commission determines to be substantial, and which the Commission determines has resulted or probably will result in substantial damages to persons offsite or property offsite.

This provision clearly calls for a two-pronged determination: (a) Substantial offsite release or substantial offsite radiation, and (b) actual or prospective substantial offsite damages. This section also requires the Commission to "establish criteria in writing" for application of these tests to specific events.

The Commission's present regulations were established in 1968 (33 FR 15998) and are found in 10 CFR 140.84 and 140.85. Consistent with the statutory definition, for the Commission to determine that there has been an ENO, the Commission must find that both substantial releases of radioactive materials or substantial offsite doses *and* substantial injury or substantial damages have occurred (both Criterion I and Criterion II must be met). The language of the regulation, especially that related to Criterion I, is rather technical and precise.

Criterion I

Criterion I relates to whether there has been a substantial discharge or dispersal of radioactive material offsite, or whether there has been a substantial level of radiation offsite. Criterion I calls for such a finding when radioactive material is released from its intended place of confinement or radiation levels occur offsite and *either* of the following findings are also made:

a. That one or more persons offsite were, could have been, or might be exposed to radiation or to radioactive material, resulting in a dose or in a projected dose in excess of one of the levels in the following table:

TABLE I.—TOTAL PROJECTED RADIATION DOSES

Critical organ	Dose (rems)
Thyroid	30
Whold body	20
Bone Marrow	20
Skin	60
Other organs or tissues	30

In measuring or projecting doses, exposures from the following types of radiation shall be included:

(1) Radiation from sources external to the body;

(2) Radioactive material that may be taken into the body from air or water; and

(3) Radioactive material that may be taken into the body from its occurrence in food or on terrestrial surfaces.

or

b. (1) Surface contamination of at least a total of any 100 square meters of offsite property has occurred as a result of a release of radioactive material from a production or utilization facility and such contamination is characterized by levels of radiation in excess of one of the values listed in column 1 or column 2 of the following table, *or*

(2) Surface contamination of any offsite property has occurred as the result of a release of radioactive material in the course of transportation and such contamination is characterized by levels of radiation in excess of one of the values in column 2 of the following table:

TABLE II.—TOTAL SURFACE CONTAMINATION LEVELS [1]

Type of emitter	Column 1	Column 2
	Offsite property contiguous to site; owned or leased by a person with whom an indemnity agreement is executed.	Other offsite property
Alpha emission from transuranic isotopes.	3.5 microcuries per square meter.	0.35 microcuries per square meter.
Alpha emission from isotopes other than transuranic isotopes.	35 microcuries per square meter.	3.5 microcuries per square meter.
Beta or gamma emission.	40 millirads/hour at 1 cm. (measured through not more than 7 milligrams per square centimeter of total absorber).	4 millirads/hour at 1 cm. (measured through not more than 7 milligrams per square centimeter of total absorber).

[1] The maximum levels (above background), observed or projected, 8 or more hours after initial deposition.

If Criterion I is satisfied, Criterion II must then be applied.

Criterion II

Criterion II is satisfied if *any* of the following findings is made:

(1) The event has resulted in the death or hospitalization, within 30 days of the event, of five or more people located offsite showing objective clinical evidence of physical injury from exposure to the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material; *or*

(2) $2,500,000 or more of damage offsite has been or will probably be sustained by any one person, or $5 million or more of such damage in total has been or will probably be sustained, as the result of such event; *or*

(3) $5,000 or more of damage offsite has been or will probably be sustained by each of 50 or more persons, provided that $1 million or more of such damage in the aggregate has been or will probably be sustained, as the result of such events.

The term "damage" refers to damage arising out of or resulting from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material, and shall be based upon estimates of one or more of the following:

(1) Total cost necessary to put affected property back into use,

(2) Loss of use of affected property,

(3) Value of affected property where not practical to restore to use,

(4) Financial loss resulting from protective actions such as evacuation appropriate to reduce or avoid exposure to radiation or to radioactive materials.

II. Problems in Application

The accident at the Three Mile Island Nuclear Power Station, Unit 2, on March 29, 1979 uncovered several problems in applying the existing ENO criteria in 10 CFR 140.84 and 140.85. The Commission's determination that the accident at TMI was not an "extraordinary nuclear occurrence" was published in the **Federal Register** on April 23, 1980 (45 FR 27590). This determination was based in part on NRC staff report NUREG–0637, "Report to the Nuclear Regulatory Commission from the Staff Panel on the Commission's Determination of an Extraordinary Nuclear Occurrence (ENO)", dated January 1980. This report is available for inspection in the Commission's Public Document Room at 1717 H Street NW., Washington, DC. A single copy of the report NUREG–0637 may be obtained free upon request from the Nuclear Regulatory Commission, Publication Services Section, Washington, DC 20555.

Basically, there are problems with the existing ENO criteria. These problems are:

1. Several of the dose criteria for "substantial releases" in the present regulation were formulated in part to be consistent with the then effective Protective Action Guides. Since 1968 proposed Protective Action Guides have been reformulated at lower dose levels.

2. The current Criterion II for "substantial injury" requires objective clinical evidence of radiation injury. However, tests for evidence of such injury are not necessarily conclusive proof of radiological injury. For example, psychological stress can manifest some physical symptoms similar to those associated with acute radiation injury.

3. Monetary damages in Criterion II were difficult, if no impossible, to evaluate accurately in a timely manner. For example, in the ENO determination for the Three Mile Island Accident, compensation costs such as payments for evacuation were evaluated and tabulated. However, many damages, such as diminution of property values and business losses, required court adjudication before the proper compensation could be awarded.

III. Proposed Criteria

The Commission is proposing for comment three different options for determining whether an accident was an extraordinary nuclear occurrence. The first and second options retain the structure of the existing criteria and contain explicit criteria for both substantial releases and substantial damages. These options employ estimates of offsite doses and ground contamination as indicators of substantial releases but have separate criteria for substantial damages. These two options also seek to avoid the measurement problems encountered in applying the present criteria for "substantial damages" by focusing the criteria on costs which can be readily counted or estimated. The first two options differ in that the Commission is proposing alternative wording of these criteria for public comment.

The Commission is also interested in obtaining public comments on a third option for defining an ENO. This third option represents a new and arguably more simplified approach to arrive at ENO criteria which could be readily evaluated following a nuclear accident. This option focuses on establishing that a major release of radioactive materials has occurred with concomitant high offsite radiation levels or contamination. It does not require that doses to individuals be evaluated, nor does it require that property damage estimates or evacuation characteristics be evaluated. Further, this criterion for substantial releases does not require the NRC staff to evaluate exposure conditions such as occupancy time or building shielding factors for actual or hypothetical individuals and, consequently, would simplify the data collection and analysis following an accident. Thus, this option may be viewed as more straight forward than the other option. It allows for direct measurement of discharge of material or radiation levels, and by virtue of the strong causal relation between release of radionuclides and damages, it defines, by direct measurement, the conditions under which the Criterion II requirement of substantial damages is met. Therefore, its intent is that procedural barriers to a rapid determination should be minimized.

Option 1

Criterion I is a mechanism for determining that a substantial release of radioactive material or radiation offsite has occurred. Currently Criterion I specifies a 20-rem (0.2-sievert)[*] whole body dose to one person offsite with higher values for specific organs. The proposed regulation would lower these levels to a 5-rem whole body dose with correspondingly lower organs doses. This proposed modification has been selected to be numerically consistent with Protective Action Guides proposed by the Enivronmental Protection Agency[1] and those issued by the Food and Drug Administration.[2] This ensures that any nuclear accident which would have warranted protective actions will be found to involve a substantial release of radioactive materials which satisfy the first condition for an ENO determination.

The proposed dose levels for Criterion I, which would define levels of "substantial releases or substantial offsite doses" for screening purposes, are in the range of the occupational dose limits and hence could be regarded as too low to be viewed as being "substantial." However, these doses criteria are substantially above the doses to the general public expected from normal operation of NRC-licensed facilities as limited by § 20.105 of 10 CFR Part 20 and, in that sense, constitute criteria for "substantial releases."

The words " * * * one or more persons offsite were, could have been or might be exposed * * * " in the current criterion would be replaced with the proposed words: " * * * one or more persons offsite were or will probably be exposed * * * " This proposal will remove the necessity to evaluate highly improbable "might have been" conditions in favor of conditions which would be more likely to occur.

The surface contamination levels in Criterion I will not be changed as those levels are consistent with proposed emergency response levels. The existing procedures in § 140.84(b) are inexpensive and can be performed rapidly. Although more sophisticated measurement techniques are available and specific radionuclide levels could be measured, the existing simpler tests provide adequate indication of contamination levels for an ENO determination.

Criterion II, which defines substantial damages, would be changed extensively. Instead of the present criterion based upon the total monetary worth of damages or clinical evidence of radiation injury, the proposed Criterion II for the amount of damages represents items for which information is readily available within the time frame for an ENO determination. For each of the monetary requirements, the total valuation is assumed to be equivalent to a loss of $2.5 million. This value is in the present ENO criterion as the amount of loss to a single individual which would constitute an ENO. The Commission no longer believes it necessary or useful to specify different amounts of monetary damages depending upon the number of people affected.

Criterion II (1) accounts for human injury. One alternative that the Commission is considering would replace the current criterion for clinical injury to 5 or more people with a requirement that 5 or more receive radiation doses which are in the range that would produce symptoms of "radiation sickness." For the purpose of this evaluation, clinical findings of radiation injury in the current criteria would not be required, only a showing that five or more people received doses in excess of 100 rads (1 Gy).[*] This is expressed in rads because the unit of dose equivalent (rem or sievert) requires a dose quality factor (QF) be used. In the range of doses which could cause acute injury such as the 100-rem (1-sievert) dose, the appropriate quality factor is dependent upon the specific biological end point.

In evaluating the doses for defining "substantial injury", the Commission intends that the methodology used for the evaluations be realistic rather than overly conservative. Parameters and models used in Regulatory Guide 1.109[3] are suitable for this purpose to the extent that they apply to accident conditions.

In this proposal, the present monetary values for property damage in the existing Criterion II would be replaced by things that could be readily counted or estimated within a relatively short time following an accident, such as tax assessments, numbers of people unemployed, and numbers of people evacuated. In Criterion II (2), the assessed value of property requiring decontamination is used as an index of damage. Criterion II (3) is based upon an assumed loss (to the person directly affected and others) of $100 per person-day of lost employment. In Criterion II (4) a cost of $25 per person-day for evacuees is used to arrive at the number of evacuees equivalent to the $2.5 million loss.

Option #2—Commissioner Asselstine's Proposals

Commissioner Asselstine has proposed alternatives to criteria for defining substantial releases and for specifying substantial injury. In Criterion I, in place of the change proposed in Option #1 for redefining substantial releases, Commissioner Asselstine would prefer that, instead of the present Part 140 wording: * * * one or more persons were, could have been or might be exposed * * *," the text would read:

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[*] A sievert (Sv) is the SI unit of dose equivalent: 1 Sv = 100 rem; 1 rem-centisievert (1 cSV) or 0.01 sievert.

[1] Environmental Protection Agency, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents" EPA Report EPA-520/1-75-001 (Revised June 1980).

[2] Food and Drug Administration "Accidental Radioactive Contamination of Human Food and Animal Feeds: Recommendation for State and Local Agencies," published in the Federal Register on October 22, 1982 (47 FR 47073).

[*] Gray is the SI unit of absorbed dose. 1Gy = 100 rads; 1 rad = 0.01 gray.

[3] Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I". Available from Director, Division of Technical Information and Document Control, USNRC, Washington, DC 20555.

"* * * a person or persons on or near any site boundary throughout the duration of the accident * * *"

This permits the Commission to make the ENO evaluation based upon the estimated dose to an individual who possibly was at or near the site boundary throughout the course of the accident. As was the case with Option #1, this proposal also eliminates the uncertain "might have been" condition and employs the proposed revised dose criteria.

An alternative criterion for defining substantial injury has been proposed by Commissioner Asselstine. This alternative represents a change from using acute injury, such as in the present criterion for "objective clinical evidence of radiation injury" to five people or the death of the five people, or using a high dose to a few exposed individuals such as the 100-rem (1 sievert) dose to five people proposed in Option #1. Option #2 would use a requirement that a 100,000 person-rem (1,000 person-sieverts) collective dose delivered to the population within fifty miles as only indication of the potential impact of the accident on the surrounding population. This is consistent with findings that the latent effects of a serious nuclear accident could far outweigh the observable acute affects.

The proposed changes to the criteria for substantial damage are those proposed in Option #1.

Option #3—Commissioner Bernthal's Proposal

The rule presented as Options #1 and #2 resemble the existing ENO criteria in 10 CFR Part 140, Subpart E in several respects. The proposed organization is similar in that separate criteria are retained for substantial releases and doses and for substantial injury or damage. Both sets of criteria require the evaluation of doses to people. This might require that data on occupancy times, food consumption, and movement be collected for those people living in the immediate vicinity of the facility or accident site. Both Option #1, Option #2, and the existing criteria require enumeration and valuation of damages. Although these options restrict the damages that the Commission must consider to those which can be more readily evaluated, the time and effort required for such an analysis could still be large. Moreover, damage costs or values could be required for property other than taxable property such as municipal utilities, churches, and schools. Although Option #1 and Option #2 would rectify a number of the problems with the existing ENO criteria, they do not represent a radical departure from them and fail to solve totally the problems associated with evaluation of damages.

The statutory definition of an ENO permits the Commission to make a definition that an ENO has occurred if there have been substantial releases of radioactive materials or substantial offsite doses which have resulted or will probably result in substantial injury or substantial damages. The current criteria and the revisions proposed above place more emphasis on releases of radioactive materials "which have resulted" in substantial injury or damage and thus require a detailed enumeration of such injuries or damages as have occurred. Option #3 proposed by Commissioner Bernthal suggests a different approach to decide whether a nuclear accident is an extraordinary nuclear occurrence in that it emphasizes the "will probably result" aspect in dealing with substantial injury or damages. Rather than requiring enumeration and evaluation of actual damages and identification of actual injuries, the Option #3 simplifies the Commission's task to identifying those conditions which could lead to injury or damages.

The ENO criteria in Option #3 depart from the two-tiered approach which first requires a finding that substantial releases (or doses) occurred and then determining that substantial injury or damages resulted. Instead, one set of criteria is given for the magnitude of releases and doses that the Commission believes will satisfy the conditions for both substantial releases and will probably result in injury or substantial damages.

A principal basis of an ENO determination is that an event occurred which released radioactive materials in such quantities that the event is clearly "extraordinary" compared to normal operation. This provides the threshold level to ensure that the waivers of defenses and other legal provisions of the Price-Anderson amendments of 1966 are not activated as a result of minor expected operational occurrences. Options #1 and #2 and the present criteria for substantial release set this threshold at a low level to provide a "trigger" for identifying events which might be classed extraordinary nuclear occurrences. Section 140.81(a) of 10 CFR Part 140 clearly states that the present criterion is below that where substantial injury or damage would result. This is also true for the proposed revisions especially as the numerical criterion for substantial releases is less than in the existing Part 140.

For Option #3, a release of radioactive materials which results in doses or dose rates offsite of a magnitude equal to or greater than the proposed criterion will suffice to demonstrate that substantial releases of offsite doses have occurred and that substantial damage will probably occur. Enumeration of actual damages is not required to satisfy the criterion. Based upon the experience with the ENO determination for the Three Mile Island accident, this simplification would be of great value to a prompt ENO determination. The Commission believes that such simplification warrants the issuance of this novel proposal for public comment.

Of the three conditions associated with Option #3, Conditions (a) and (b) apply primarily to accidents at commercial light-water reactors. Condition (a) applies to surface contamination which would result from deposited radioactive materials from serious accidents releasing particulates or semi-volatile materials. Condition (a) is considered a threshold for damage requiring extensive decontamination. Damage requiring interdiction or damage resulting in significant harm to people (early injuries, early deaths and latent effects) is considered well above this threshold and, therefore, is adequately covered by this condition. Condition (b) uses a 24-hour integrated dose of 10 rad (0.1 gray) as a measure of the dose which could be received by an individual from releases including those from accidents from which only the noble gases are released. This dose criterion does not use the dose received by a specific individual or group of individuals. Rather, it is the dose which could have been received during the duration of the accident. The values of these conditions were selected to be far above doses or exposure rates which could occur from normal operation under existing radiation protection standards.

Commissioner Bernthal's proposal (Option #3) relies on the "will probably occur" aspect of the statutory ENO definition. It should be noted that this option would trigger the waivers of defenses and other resultant actions of an affirmative ENO determination without first having to establish that substantial injuries or damages have actually occurred. The criterion in Option #3 should ensure that an affirmative ENO determination will be reached in any situation which would give rise to substantial injury or damage, and, conversely, that it would be difficult to exceed the criterion in situations where accident consequences were minor. This should provide the threshold intended by the ENO concept.

IV. Petition for Rulemaking

In a petition (PRM-140-1) to the NRC, the Public Citizens Litigation Group and

Critical Mass Energy Project requested that the accident at the Three Mile Island Nuclear Station Unit No. 2 be found to be an ENO. This portion of the petition was considered as part of the ENO determination already initiated by the Commission. The Commission later determined (as published in the **Federal Register** on April 23, 1980 [45 FR 27590]) that the Three Mile Island Accident was not an ENO as defined in the Atomic Energy Act and the Commission's regulations.

The petitioners also requested that the Commission make the criteria for determination of an ENO more in line with the intent of Congress. Notice of receipt of the petition and a request for public comment were published in the **Federal Register** on August 28, 1979 (44 FR 50419). One public comment was received regarding the ENO criteria. The commenter, an official of a nuclear utility, believed that the current criteria for determining an ENO are reasonable. The commenter stated that Congress intended that the waiver of defenses be limited to incidents resulting in significant injury or loss and that the current criteria are consistent with this. The commenter also believed that lowering the threshold for an ENO would lead to higher premiums for insurance coverage and could at some point endanger the availability of insurance coverage.

The Commission believes that the existing ENO criteria are consistent with the Atomic Energy Act definition of an ENO. However, based upon the experience during the Three Mile Island ENO determination, the Commission is proposing revised ENO criteria which are more practicable than the present regulation. Because the proposed regulations revise the standards against which an ENO determination will be made, the PCLG–CMEP petition for revised ENO criteria is granted in part.

The Commission believes that none of the proposed criteria will affect insurance premiums. During the 1966 Congressional hearings on the ENO, representatives of the insurance industry testified [4] that experience with claims would be the principal determinant of insurance premiums and that institution of the waivers of defenses would not be expected to have any effect on premiums.

The proposed modifications to the ENO criteria would not have changed the outcome of the ENO decision for the Three Mile Island accident. That accident would not have exceeded the proposed dose criteria or the surface contamination criteria and, consequently, would not have been found to be an ENO under existing or any of the proposed regulations.

Additional Comments of Commissioner Bernthal

Although the proposed criteria for an ENO in Option 1 are improvements to those currently in Part 140, substantial problems remain, problems that would be largely eliminated by the inherent simplicity of Option 3. The basis of Option 3 is the definition of two simple, objective dose measurements that directly satisfy the requirement of Criterion I; i.e., they are a measure of "Substantial Discharge of Radioactive Material or Substantial Radiation Levels Offsite." Moreover, these two measures are sufficiently correlated with "Substantial Damages to Persons Offsite or Property Offsite" (the definition of Criterion II) that there is no need for further considerations in order to satisfy Criterion II. For the special case of release of radionuclides that produce little or no gamma radiation, Option 3 here incorporates, with minor clarifying modifications, the relevant part of the existing rule.

In justifying this approach, it is useful first to consider some of the specific problems in Option 1. Second, the characteristics of damages to people and property must be considered, in order to establish what constitutes "substantial" damages. Finally, analyses which correlate "substantial damages" with the measures of radionuclide release recommended here will be discussed.

Option 1 of the proposed Part 140 rule is evidently complicated, and unnecessarily so. Demonstrating that the criteria for an ENO have been met may be difficult under Option 1, and the proposed rule itself suffers from inconsistences. For example, with reference to:

A. Criterion I (Defined as "Substantial Discharge of Radioactive Material or Substantial Radiation Levels") Part (a):

- In order to "measure" Part (a), one must be able to track two paths: the path of the persons at risk and the path of the plume of radionuclides. It is the intersection of these two paths that will determine the dose to persons, but the two pathways may never be known well enough to make a reliable determination of dose. (Doses cannot be measured after the fact.)
- It is doubtful one would know the compositions of the plume (radioactive cloud) in terms of radionuclides, particle sizes, and chemistry, sufficiently well to rely on them for calculating the critical parameters, i.e., damage to human beings and the dose to specific human organs.
- Since persons must actually be exposed to meet this criterion (e.g., 15 rems (0.15 sieverts) to the thyroid), it is a measure of exposure and possible damage (cf. Criterion II), not a measure of discharge or radiation level. Must people be present before a discharge or radiation level threshold can be established? [This problem is also addressed in the proposed revision to Criterion I(a) found in Option 2, but the problem of identifying the intersection of the two pathways remains.]

B. Criterion I Part (b)(1):

- For nuclear power plants, the breakdown into two alpha-emission groups is unnecessary.
- It is not clear whether *each* of the 100 square meters must be contaminated in excess of those levels in the table, or whether there need only be *some* contamination evident over 100 contiguous square meters. In the latter case, a single localized pocket or object of radioactivity could cause the criteria for an ENO to be met, even though the median and modal contamination per square meter might be very low.

C. Criterion II (Defined as "Substantial Damages to Persons Offsite or Property Offsite") Part (1):

- This is the only criterion for substantial radiation damage to persons, and the threshold is very high. Consider, for example, that the exposure of 5,000 people to 80 rads (0.8 grays) each would still fall below the threshold criterion for radiation damage to persons.
- If four persons were exposed to 600 rads each (6 grays) (lethal dose), the criterion would not be met.

D. Criterion II Part (2):

- The valuation itself of taxable property could be time-consuming and cumbersome, and leaves open the question of how one would quickly establish the value of items other than taxable property (e.g., cemeteries, municipal sewer systems, churches). The ENO finding must be made within a reasonable period of time.

E. Criterion II Part (3):

- An "Employment Loss" criterion could act as a disincentive for employees to return to work or for employers to require return to work. In any case, such numbers may in practice be difficult to measure.

F. Criterion II Part (4):

- This criterion depends more on the declaration of a general emergency than on damage to persons. There may well be declarations of general emergencies (with accompanying evacuation) without any release of radionuclides. The criterion could act as an incentive (or disincentive) to declaring a general emergency. There could also be an incentive to stay away from home in order to contribute to the threshold for waiving defenses.

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[4] Testimony of D.C. Thomas with E.A. Lowie, R. Fisher, L. Senger, W.M. Smith and J.H. Merritt, "Proposed Amendments to Price-Anderson Act Relating to Waiver of Defenses," Hearings before the Joint Committee on Atomic Energy, 89th Congress, June, 1966. Superintendent of Documents, GPO 1966, page 120.

In summary, it seems clear that Option 1 is so flawed as to call into question its practicality and applicability in any realistic circumstance. On the other hand, to demonstrate the suitability of an alternative, Option 3, it is important to establish a realistic definition of "substantial damages" to persons and property, and to relate that definition to a readily measurable radiological release.

Radiological releases from nuclear power plants under accident conditions are expected to fall into two categories: (1) Releases characterized by a mix of particulates, volatiles, and gases; and (2) releases consisting principally of noble gases (Xe, Kr). For the first category, significant contamination of property would very likely be evident and dominant long before direct health effects are determined to be present and would therefore represent a conservative and early indicator of harm.

Literature[1] on the subject suggests a hierarchy of "damage thresholds" that can be reasonably correlated with dose rates in the case of property, and with integrated doses in the case of persons. For example, the literature suggests readily measurable criteria as follows, in order of increasing severity: (1) Damage not requiring decontamination, such as that to milk and crops; (2) damage requiring decontamination; (3) damage requiring interdiction; i.e., physical isolation and exclusion of the public from contaminated areas for an indefinite period of time; (4) early injuries; and finally, (5) early fatalities.

Latent (cancer) fatalities or genetic effects are not included in such a tabulation because neither has a "threshold"; both are normally treated in a probabilistic fashion. Moreover, the incidence of these important latent health effects is characterized by doses well above the threshold for decontamination. The first item (milk and crops), on the other hand, involves relatively low cost damages (e.g., contaminated milk and crops are purchased and disposed of) and having costs that are unambiguous (e.g., the cost of buying milk and disposing of it can be clearly documented). Thus, there is little reason to set the threshold of "significant" damage this low.

On the other hand, costs become much more significant when decontamination becomes necessary. Decontamination may involve repaving roads, putting new roofs on homes, and deep plowing of farm lands and/or soil removal. Such costs very quickly would escalate to many millions of dollars—certainly "significant" as defined in this proposed rule. Costs involved in interdiction are still higher. Thus, a reasonable threshold to establish "significant damages" to property for ENO purposes is that level of damage which requires decontamination.

The remaining question is whether the "decontamination threshold" for significant damage correlates with an easily measurable dose-rate or integrated dose. As a guideline, studies[2] have proposed that decontamination should be required if the integrated dose over 30 years is expected to be greater than about 25 rem (0.25 sieverts). For a representative mix of radionuclides such as that expected to be released in an accident, such an integrated long-term dose would be indicated by 10 millirad/hr (0.10 milligray/hr) measured at 1 meter from the ground surface within a few hours after the release. Dose rates substantially higher than this would require interdiction, and could lead to significant latent and genetic effects and even risk of early injury or death.

Of course, the relation between the damage measures described above and the doses at various offsite locations are a function of variables such as meteorological conditions, plume characterizations, population distribution, and isotopic mixes of radionuclides. Specifically, studies show that:

1. Surface contamination dose rate is a good general dose measure—it correlates well with damage measures.

2. For a wide variation of accident conditions, the postulated decontamination threshold dose rate of 10 millirad/hr (0.10 milligray/hr) covers cases where costs of decontamination would be significant (i.e., at least a few million dollars).

3. For virtually all conceivable accident conditions, the threshold rate of 10 millirad/hr (0.10 milligray/hr) would envelop interdiction and all health effects (cancers, genetic effects and early casualties). The exception is the case of release of noble gases only. This case is addressed in category 2, described below.

4. TMI–2 accident releases resulted in surface contamination dose rates well below the 10 millirad (0.10 milligray/hr) threshold.

5. Accidents characterized by containment building failure (other than basemat melt-through) all are expected to result in peak surface dose rates well above 10 millirad/hr (0.10 milligray/hr).

6. Accidents characterized by no containment building failure all are expected to result in peak surface dose rates well below 10 millirad/hr (0.10 milligray/hr).

For the second category of release, that of only noble gas release, there is no lasting ground contamination and the damage to persons as a consequence of plume exposure dominates. An appropriate threshold dose for damage in this case can be as low as 10 rads (0.10 gray) integrated over 24 hours, since a noble gas plume passage is highly likely to be concluded within a few hours. This dose can be considered substantial since it is twice the value that triggers Protective Action as established by the FDA and the EPA.

Key to the entire approach suggested here is the fact that the proposed threshold surface contamination dose rate can be easily measured and confirmed by NRC shortly after an accident; the integrated dose would be monitored by the network of 40–50 TLD's located at each reactor site. (Needless to say, adequate dosimetry equipment in the vicinity of nuclear power plants is essential.)

For completeness, Criterion (c) has been included to cover the special cases where a radionuclide release might *not* involve significant gamma radiation, but might instead produce surface contamination by alpha and/or beta radiation emitters. Such hypothetical releases will be limited to events that might be associated with transportation of nuclear materials, operation of certain non-power plant reactor facilities, or operation of certain other special production and utilization facilities. Criterion (c) in Option 3 is taken directly from 10 CFR 140.84(b)(2) with minor clarifying modifications. The footnotes in that part of the existing rule have also been omitted because they are subject to misinterpretation and appear to be unnecessary.

In summary, radionuclide releases are sufficiently correlated with expected damage from such releases to establish a causal relationship between Criterion I and "Substantial Damages to Persons

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[1] a. Food and Drug Administration, Emergency Protective Action Guides, **Federal Register**, Vol 47, #205, October 22, 1982. [47 FR 47073].

b. U.S. Nuclear Regulatory Commission, "Reactor Safety Study—An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants," WASH-1400 (NUREG–75/014), Appendix 6, October 1975.

c. Recommendations of the International Commission on Radiological Protection, Report #9, September 1985.

d. Federal Radiation Council Staff Report #5, 1964, "Background for Development of Radiation Protection Standards."

e. Medical Research Council of Great Britain, 1975, "Criteria for Controlling Radiation Doses to the Public after Accidental Escapes of Radioactive Material." Her Majesty's Stationary Office.

[2] a. Ibid. [1] b.

b. U.S. Nuclear Regulatory Commission, "Overview of the Reactor Safety Study Consequence Model" (NUREG–0340), October 1977.

Offsite or Property Offsite." Therefore, no Criterion II as such is needed. The expected correlation between Criterion I and "substantial damages" suggests that the advanteges to this approach far outweigh the disadvantages.

Paperwork Reduction Act Statement

The proposed rule contains no new information collection requirements and therefore is not subject to the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501, et seq.).

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission hereby certifies that this rule will not, if promulgated, have a significant economic impact on a substantial number of small entities. This proposed rule could affect NRC licensees of production and utilization facilities and the nuclear liability insurance underwriting pools. The companies that own the production and utilization facilities and the insurance pools do not fall within the definition of a small business found in section 3 of the Small Business Act, 15 U.S.C. 632, or within the Small Business Size Standards set forth in 13 CFR Part 121.

List of Subjects in 10 CFR Part 140

Extraordinary nuclear occurrence, Insurance, Intergovernmental relations, Nuclear materials, Nuclear power plants and reactors, Penalty, Reporting and recordkeeping requirements.

For the reasons set out in the preamble and under the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, notice is hereby given that adoption of the following amendments to 10 CFR Part 140 is contemplated.

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

1. The authority citation for Part 140 is revised to read as follows:

Authority: Secs. 161, 170, 68 Stat. 948, 71 Stat. 576, as amended (42 U.S.C. 2201, 2210); secs. 201, 202, 88 Stat. 1242, as amended, 1244 (42 U.S.C. 5841, 5842).

For the purposes of sec. 223, 68 Stat. 958, as amended (42 U.S.C. 2273); §§ 140.11(a), 140.12(a), 140.13 and 140.13a are issued under sec. 161b, 68 Stat. 948, as amended (42 U.S.C. 2201(b)); and § 140.6 is issued under sec. 161o, 68 Stat. 950, as amended (42 U.S.C. 2201(o)).

Proposed Amendments—Option #1

1. In § 140.84, paragraph (a) is revised to read as follows:

§ 140.84 Criterion I—Substantial discharge of radioactive material or substantial radiation levels offsite.

* * * * *

(a) The Commission finds that one or more of the persons offsite has been or probably will be exposed to radiation or radioactive materials which would result in estimated doses in excess of any one of the levels in the following table:

TABLE 1.—TOTAL PROJECTED COMMITTED RADIATION DOSE

Organ	Dose (rems)	Dose (sieverts)
Total Body	5	0.05
Thyroid	15	0.15
Bone marrow	5	0.05
Bone (surface or mineral)	15	0.15
Skin	50	0.50
Other organs or tissues	10	0.10

Exposures from the following types of sources of radiation shall be included:

(1) Radiation from sources external to the body;

(2) Radiation material that may be taken into the body from its occurrence in air or water;

(3) Radiation material that may be taken into the body from its occurrence in food or on terrestrial surfaces; and

(4) Radiation from sources internal to the body.

* * * * *

2. Section 140.85 is revised to read as follows:

§ 140.85 Criterion II—Substantial damages to persons offsite or property offsite.

After the Commission finds that an event has satisfied Criterion I, the Commission will determine that the event has resulted or will probably result in subtantial damages to persons offsite or property offsite when any of the following conditions are satisfied:

(a) Five or more people have received a radiation dose equivalent to the whole body or any organ in excess of 100 rads (1 gray) during the course of the accident.

(b) Offsite property having a value of $2,500,000 is contaminated with radioactive materials in excess of the levels in § 140.84(b). The valuation shall be based on market value taking into account the ratio of assessed value/market in each tax assessment jurisdiction.

(c) Employment loss of at least 25,000 person-day had occurred.

(d) Evacuation of at least 100,000 person-days has occurred as a result of an evacuation ordered by a State or local official with the authority to make such an order. For the purpose of this regulation, the evacuation period will end when the evacuation order is rescinded by this or another responsible official and when it is determined that the evacuated area may be reoccupied.

Option #2

1. In Subpart E of 10 CFR Part 140, § 140.84 paragraph (a) is revised to read as follows:

§ 140.84 Criterion I—Substantial discharge of radiocharge material or substantial radiation levels offsite.

* * * * *

(a) The Commission finds that any of the following doses were or could have been received by a person or persons located on or near any site boundary throughout the duration of the accident:

TABLE 1.—TOTAL PROJECTED COMMITTED RADIATION DOSE

Organ	Dose (rems)	Dose (sieverts)
Total Body	5	0.05
Thyroid	15	0.15
Bone marrow	5	0.05
Bone (surface or mineral)	15	0.15
Skin	50	0.50
Other organs or tissues	10	0.10

Exposures from the follwing types of sources of radiation shall be included:

(1) Radiation from sources external to the body;

(2) Radiation material that may be taken into the body from its occurrence in air or water;

(3) Radiation material that may be taken into the body from its occurrence in food or on terrestrial surfaces; and

(4) Radiation from sources internal to the body.

* * * * *

2. Section 140.85 is revised to read as follows:

§ 140.85 Criterion II—Substantial damages to persons offsite or property offsite.

After the Commission finds that an event has satisfied Criterion I, the Commission will determine that the event has resulted or will probably result in substantial damages to persons offsite or property offsite when any of the following conditions are satisfied:

(a) A calculated collective dose of 100,000 person-rem [1,000 person-sieverts] has been delivered within a 50-mile radius during the course of the accident.

(b) Offsite property having a value of $2,500,000 is contaminated with radioactive materials in excess of the levels in § 140.84(b). The valuation shall be based on market value taking into account the ratio of assessed value/

market value in each tax essessment jurisdiction.

(c) Employment loss of at least 25,000 person-days has occurred.

(d) Evacuation of at least 100,000 person-days has occurred as a result of an evacuation ordered by a State or local official with the authority to make such an order. For the purpose of this regulation, the evacuation ordered by a State or local official with the authority to make such an order. For the purpose of this regulation, the evacuation period will end when the evacuation order is rescinded by this or another responsible official and when it is determined that the evacuated area may be reoccupied.

Option #3

1. In Subpart E of 10 CFR Part 140: § 140.84 is revised to read as follows:

§ 140.84 Criterion for an Extraordinary Nuclear Occurrence.

The Commission will determine that there has been a substantial release of radioactive material offsite, or that there have been substantial levels of radiation offsite such that substantial injuries or substantial damages have resulted or will probably result when radioactive material is released from its intended place of confinement and, as a result of the event, any of the following conditions is satisfied:

(a) Real and personal property is rendered unfit for its normal use as a result of contamination with radioactive materials at levels which produce gamma exposure rates at 1 meter above the surface equal to or greater than 10 millirads per hour, (0.1 milligray/hr).[1]

(b) The integrated air dose which could be received by an individual, over any 24-hour period exceeds 10 rads (0.1 gray), or

(c) Real and personal property is rendered unfit for its normal use as a result of contamination for each square meter of any 100 square meters (as a minimum) at levels in excess of:

Transuranic Alpha-particle-emitting radionuclides	0.35 microcuries per square meter (0.013 MBq/m²).*
Non-transuranic alpha-particle emitting radionuclides.	3.5 microcuries per square meter (0.13 MBq/m²).*
Beta-gamma-emitting radionuclides.	4 millirads per hour (0.4 milligray/hr)@ 1 centimeter above the ground.[1]

*Megabecquerel where 1 MBq = 10^6 Bq and 1 becquerel (Bq) is 1 disintegration per second. A curie is 3.7×10^{10} Bq or 34,000 MBq.

[1] Measured to exclude very short-lived radionuclides (those having half-lives less than 1 hour) either by measurement at least 8 hours after the cessation of abnormal releases of radioactive materials or by making multiple measurements and compensating or correcting for the contributions from these short-lived radionuclides.

§ 140.85 [Removed]

2. Section 140.85 is removed.

Dated at Washington, DC this 2nd day of April 1985.

For the Nuclear Regulatory Commission.

John C. Hoyle,

Acting Secretary of the Commission.

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[1] Measured to exclude very short-lived radionuclides (those having half-lives less than 1 hour) either by measurement at least 8 hours after the cessation of abnormal releases of radioactive materials or by making multiple measurements and compensating or correcting for the contributions from these short-lived radionuclides.

PART 140

FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

PETITIONS FOR RULE MAKING

44 FR 50419
Published 8/28/79
Comment period expires 10/29/79

[Docket No. PRM-140-1]

Public Citizen Litigation Group Critical Mass Energy Project; Filing of Petition for Rule Making

Notice is hereby given that representatives of the Public Citizen Litigation Group and the Critical Mass Energy Project, by petition dated July 24, 1979, have requested that the Nuclear Regulatory Commission (NRC) find, pursuant to the procedures and criteria in the NRC's regulation's (Subpart E of 10 CFR Part 140), that the nuclear accident commencing on March 28, 1979 at the Three Mile Island, Unit 2 nuclear power plant constitutes an "extraordinary nuclear occurrence" (ENO). The petition also requested that the NRC amend Subpart E of 10 CFR Part 140 to make less stringent the criteria used by the Commission for determination of whether or not an ENO has occurred.

The Commission intends to treat the first part of the petition as a response to its July 23, 1979, **Federal Register** notice (44 FR 43128) announcing its decision to initiate "the making of a determination as to whether or not the recent accident at Three Mile Island constitutes an extraordinary nuclear occurrence" and inviting interested persons to submit to the Commission on or before August 22, 1979 "any information in their possession relevant to this determination."

The Commission intends to treat the second part of the petition as being a petition for rule making filed in accordance with 10 CFR 2.802 of the Commission's regulations. This part of the petition states, in relevant part, as follows:

> Whether or not the Commission finds that the criteria currently set out in its regulations indicate that the accident at Three Mile Island was an extraordinary nuclear occurrence, petitioners request that the Commission alter or amend those criteria to bring them more into line with the clear intent of Congress on this matter. . . .
>
> Under these criteria, there is no question that the accident at Three Mile Island is of the size and type Congress was led to believe would be considered an extraordinary nuclear occurrence. However, from the inception of the concept of an extraordinary nuclear occurrence, the Commission also contemplated criteria establishing an accident of much smaller proportions than Three Mile Island as an extraordinary nuclear occurrence. . . .
>
> Inasmuch as the Commission has the power and discretion to make the definition of an extraordinary nuclear occurrence responsive to the circumstances and needs of the public, and inasmuch as accidents of far smaller size could be designated extraordinary nuclear occurrences in conformity with the legislative intent of the Price-Anderson Act as amended, it is appropriate and necessary that the criteria for the determination of an extraordinary nuclear occurrence be revised, altered or amended so as to respond effectively to those circumstances and demonstrated needs. In order that the assurances to the public and to Congress not prove to be empty promises, petitioners urge the Commission to alter or amend its criteria for an extraordinary occurrence through appropriate rulemaking procedures, whether or not the current criteria are satisfied by the accident at Three Mile Island.

A copy of the petition for rule making is available for public inspection in the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. A copy of the petition may be obtained by writing to the Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

All persons who desire to submit written comments or suggestions concerning the petition for rule making should send their comments to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 Attention: Docketing and Service Branch by October 29, 1979.

FOR FURTHER INFORMATION CONTACT: Joseph M. Felton, Director, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone: 301-492-7211.

UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 140

FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

STATEMENTS OF CONSIDERATION

23 FR 1151
Published 2/21/58
Effective 2/21/58

See Part 70 Statements of Consideration.

25 FR 2944
Published 4/7/60
Effective 5/7/60

The following amendments to Part 140 constitute a comprehensive revision to this part.

Notice of proposed issuance of the following rules was published in the FEDERAL REGISTER on May 1, 1959 (24 F.R. 3508). A detailed statement of considerations explaining the provisions of the following amendments was published with the notice of proposed rule making at 24 F.R. 3508. Comments filed by interested persons have been given careful consideration.

Except for §§ 140.3, 140.6, 140.12, 140.15 and 140.17, the provisions of the following amendments are the same as those incorporated in the notice of proposed rule making. Section 140.6 (concerning reports) has been rewritten to clarify the obligations of an indemnified licensee following a nuclear incident and to eliminate the filing of extensive reports by a licensee until the extent of the incident and the need for such reports and records have been determined by the Commission. Minor changes, mainly of a drafting nature, have been made in §§ 140.3(j), 140.12(b)(4)(ii), 140.15(a) and 140.17(b).

Sections 140.11 and 140.12 establish the amount of financial protection to be maintained by reactor licensees. They are substantially similar to the corresponding provisions in the proposed rule published on May 1, 1959. Representatives of the Nuclear Energy Liability Insurance syndicates ("NELIA" and "MAELU") have urged that the Commission require, in some cases, the maintenance of higher levels of financial protection than are required under the following rules. Their recommendations are set forth particularly in a letter dated January 22, 1960, and the attachments thereto, from Charles J. Haugh, Vice President, The Travelers Insurance Company. This letter and the attachments are available for public inspection in the Commission's Public Document Room, 1717 H Street NW., Washington 25, D.C. Copies of the aforesaid letter may be obtained upon request to the Director, Division of Licensing and Regulation, U.S. Atomic Energy Commission, Washington 25, D.C.

The Commission plans to re-evaluate the provisions of §§ 140.11 and 140.12 in the light of comments received from the Nuclear Energy Liability Insurance syndicate, and comments received from interested members of the public, not later than December 31, 1960.

All interested persons who desire to submit comments for the consideration of the Commission on the proposals filed by the nuclear energy insurance syndicates and their member companies should send them to the U.S. Atomic Energy Commission, Washington 25, D.C., Attention: Director, Division of Licensing and Regulation within 90 days after publication of this notice in the FEDERAL REGISTER.

Effective 30 days after publication in the FEDERAL REGISTER, 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," is amended to read as follows:

25 FR 2948
Published 4/7/60
Effective 5/7/60

On August 28, 1958 (23 F.R. 6681, 6684), and on May 1, 1959 (24 F.R. 3508), the Atomic Energy Commission published for public comment two proposed amendments to Part 140 "Financial Protection Requirements and Indemnity Agreement". One proposed amendment included a form of indemnity agreement to be entered into between the Commission and nuclear reactor licensees. Under the second proposed amendment, the Commission proposed to grant approval by rule to the furnishing of financial protection in the form of the nuclear energy liability insurance policy form then available from the NELIA and MAELU syndicates (Nuclear Energy Liability Association and Mutual Atomic Energy Liability Underwriters, respectively). Following publication of the proposed amendments, interested members of the public have submitted many helpful comments and suggestions. The comments and suggestions received have been taken into consideration by the Commission in the adoption of the following amendments.

The amendment set forth below approves, as proof of financial protection, the revised form of nuclear energy liability insurance policy currently available from NELIA and MAELU (§ 140.75, Appendix "A").

The revised form of nuclear energy liability insurance policy set forth in § 140.75 has been filed with and approved by a substantial number of state insurance agencies and has been issued by the syndicates to many AEC licensees in lieu of the binders previously in effect. The new insurance policy differs from the form previously published in the FEDERAL REGISTER on August 28, 1958, and May 1, 1959, primarily in the following respects:

1. The new form includes coverage of nuclear incidents occurring in transportation of nuclear materials to the reactor from any location, without regard to whether the transportation originated at a Government facility. The previous form provided coverage during transportation to the reactor only if the transportation was from a facility owned by the United States.

2. The period of prior notice to the Commission before the insurers can make a policy suspension effective has been increased from 12 hours to at least one full business day.

3. The new form excludes coverage for risks resulting from the transportation of "useful" or "commercial" isotopes. The NELIA and MAELU organizations have explained that such coverage is afforded in conventional liability policies.

4. With respect to a common occurrence, the aggregate insurance under all nuclear energy liability insurance policies issued by each syndicate has been expanded from the limit of liability of the highest applicable policy to the total pool capacity, if the facilities involved in the common occurrence have in the aggregate purchased that amount of coverage from the syndicate.

5. At hearings held before the Joint Committee on Atomic Energy on April 29, 1959 (Hearings Before the Joint Com-

mittee on Atomic Energy, "Indemnity and Reactor Safety," page 4), Commission representatives testified that, among other things, the phraseology of the common occurrence provision in the insurance policies may cover more situations than intended by the syndicates. To clarify the intent of the insurance syndicates, a statement was subsequently furnished to the Joint Committee on Atomic Energy on behalf of NELIA and MAELU (Hearings, page 42). With respect to the common occurrence provisions, the syndicates said:

> The Commission, in the statement made to the Joint Committee, has expressed doubt that the common occurrence provision in the policy (condition 4) has the meaning intended, and particularly that it may be construed, under subparagraph (a), to be applicable to bodily injury or property damage resulting from the conflation of fission products discharged from two or more reactors as a result of separate, distinct occurrences at each such reactor. The persons responsible for the policy language did not intend any such result but, on the contrary, intended that if two reactors at different locations "blow" at or about the same time, the applicable limit of liability of each reactor's policy will be available for resulting claims, and condition 4 will not be applicable. In brief, the pools (MAELU and NELIA) intend subparagraph (a) to apply only to situations where the gradual accumulation of nuclear materials discharged or dispersed over a period of time from two or more nuclear facilities, whether in the course of their normal operation or as a result of undetected malfunction or accidental leakage of effluents. A simple illustration is the contamination of a watershed as the result of the continued operation of two or more facilities for a period of time, without the occurrence of an incident, identifiable in time, at any of the facilities
>
> Even if the construction of subparagraph (a) of condition 4 feared by the Commission is possible, the pools could not take advantage of it because of the settled principles of law that if a provision in an insurance policy is ambiguous, the provisions must be given the meaning most favorable to the insured.
>
> It is submitted that the provisions of the Price-Anderson Act particularly the definition of "nuclear incident," and subsection (c) and (e) of section 170, require that with respect to Government indemnity any occurrence or series of occurrences to which the policy's common occurrence provision is applicable should be construed as one nuclear incident. Otherwise the Government would be liable, in such a situation, not for $500 million but for multiples thereof.

The general approval contained in the following amendment of the form of policy now offered by NELIA and MAELU should not be construed as indicating that it is the only form of nuclear energy liability insurance policy which the Commissioner will approve. The Commissioner will accept any other form of nuclear energy liability insurance policy as proof of financial protection under this part if it concludes that such other form provides adequate financial protection under the requirements of the Commission's regulations and applicable legislation.

The Commission will welcome further comments and suggestions concerning these amendments.

Effective thirty days after publication in the FEDERAL REGISTER, Part 140, Title 10 CFR, is amended by adding the following Appendix (§ 140.75).

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26 FR 1396
Published 2/17/61
Effective 4/16/61

A comprehensive revision of the financial protection requirements in Part 140 was published in the FEDERAL REGISTER on April 7, 1960 (25 F.R. 2944).

The revision of Part 140 established fixed amounts of financial protection to be required of licensees of reactors having relatively low power levels. For power and testing reactors having a higher thermal power level, Part 140 prescribed a formula for computing financial protection. The basic elements of the formula were thermal power level and reactor location.

Early in 1960, representatives of the nuclear energy liability insurance syndicates ("NELIA" and "MAELU") urged the Commission to adopt a financial protection formula which would, in most cases, require reactor licensees to maintain higher levels of financial protection than those required under the revised Part 140. The recommendations of the insurance industry are embodied in a letter dated January 22, 1960, from Mr. Charles J. Haugh, Vice President, Travelers Insurance Company.

In prescribing the revised financial protection requirements in Part 140 as published April 7, 1960, the Commission announced that it planned to re-evaluate, no later than December 31, 1960, its financial protection requirements in light of comments and suggestions submitted to the Commission by the insurance industry and by interested members of the public. The Commission further requested that interested persons submit their comments on the proposals filed by the nuclear energy liability insurance syndicates.

The Commission has completed the reevaluation of its financial protection requirements. In connection therewith careful consideration has been given to the insurers' proposal and to all comments and suggestions submitted by the insurers, the reactor industry, and other interested persons.

As a result of its study the Commission has concluded that:

a. Revision of the fixed amounts of financial protection presently prescribed by Part 140 would not be justified;

b. With respect to the formula prescribed by § 140.12 of Part 140, for determining amounts of financial protection other than the fixed amounts prescribed by §140.11, revision of the population factor of the formula is desirable for the reasons given herein; and that revision of the value assigned in the formula to the base amount of financial protection would not be justified.

The amended financial protection formula set forth below does not vary, therefore, from the formula presently prescribed by Part 140 with respect to the base amount of financial protection required ($150 per kilowatt of thermal energy capacity). The base amount prescribed by Part 140 is consistent with the principle that the quantity of fission products that could escape in the event of an incident varies roughly in direct proportion to power level.

The range specified for the location (population) factor in the formula, however, has been extended from 1 to 1.5 to a range of 1 to 2. The NELIA-MAELU proposal of January 22, 1960 urged that a more realistic range would be 1 to 4. Both the insurers and the Commission agree, however, that since no scientific basis is possible for either range of values, any range used must necessarily reflect a substantial element of judgment.

Statistics compiled from hazards summary reports for some 19 power reactors in operation, under construction or presently planned, indicate that population densities within areas surrounding the reactor sites actually differ by a factor of approximately 10. Therefore, on the basis of adjacent population alone, it appears that a location factor ranging from 1 to 1.5 is too narrow. However, surrounding population is not the only parameter pertinent to the prescription of the "location factor" to be used in the financial protection formula. Credit must also be given to those safeguards that are inherently part of the reactor design or that have been specially engineered into the plant complex in recognition of the proximity and density of population surrounding the reactor site. No scientific basis exists, however, for determining the relative value that might be assigned to such safeguards. The value, therefore, must necessarily be based largely upon subjective evaluation. After careful study, the Commission has concluded that the range presently specified in Part 140 (1 to 1.5) gives more limited effect, and that proposed by the insurance syndicates (1 to 4) gives greater effect to differences in location than is believed justified. In the absence, however, of any scientific method for determining what the range should be, the Commission has concluded that, in any case, an increase in the span of the range is required and that a difference of 100 percent between the upper and lower limits is reasonable. The Commission has, therefore, adopted a location factor range of 1 to 2. The following amendment to 10 CFR 140 gives effect to this broader range.

Effective 60 days after publication in the FEDERAL REGISTER, 10 CFR Part 140, § 140.12(b)(4)(ii), is amended to read as follows:

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26 FR 3455
Published 4/22/61
Effective 7/21/61

The following amendments establish the form of indemnity agreement which the Commission will execute with licensees furnishing insurance policies as proof of financial protection (§ 140.76); and the form of indemnity agreement which the Commission will enter into with licensees furnishing proof of financial protection in the form of the licensees resources. (§ 140.77)

The Commission acknowledges with appreciation the numerous, helpful comments and suggestions which have been received from interested members of the public and participants in industry advisory conferences. These comments have been taken into consideration in adoption of these amendments.

Principal features of the form of indemnity agreement contained in § 140.76 *Appendix B* include the following:

1. The form includes common occurrence provisions (Article I, par. 3; Article II, par. 6; Article III, par. 4) which are similar to the common occurrence provisions in the NELIA and MAELU insurance policy (§ 140.75 *Appendix A*). Inclusion of the common occurrence provision in the indemnity agreement goes far towards eliminating a gap in protection which might otherwise exist.

The common occurrence provisions in the proposed indemnity agreement published for public comment in the FEDERAL REGISTER on April 7, 1960, 25 F.R. 2999, did not fully eliminate the gap in coverage which might result from a "common occurrence". As stated in the statement of considerations published with the notice of proposed rule-making,

> A remaining possible gap is due to the fact that, although the Commission's obligations under the common occurrence provisions begin at an amount equal to the sum of all applicable insurance required under the regulations or $60,000,000, whichever is lower, NELIA and MAELU limit their responsibility to the capacity of their respective pools; that is, if all of the insurance policies applicable to the common occurrence are issued by one of the syndicates, the obligation of the insurers would not exceed the capacity of the particular syndicate ($46,500,000 in the case of NELIA or $13,500,000 in the case of MAELU).

The Commission requested the insurance pools (Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters) to consider the adoption of changes in their nuclear energy insurance policies (facility form) to eliminate this possible gap. In a letter dated December 22, 1960 (a copy of which is available for examination in the Commission's Public Document Room, 1717 H Street NW., Washington 25, D.C.), the pools concluded that:

> It should be emphasized that we have no objection to assuming liabilities up to $60,000,000 in cases where the applicable limit of policies are equal to or in excess of that amount. Thus far, we have been unable to find a way to limit the loss liability of one pool to its insured by policies issued by the other pool to another insured. As pointed out earlier, if such a clause is not enforced by a court, the companies would be exposed beyond their commitments. The managers of the pools have no authority to expose the member companies in such a manner.

Consequently, the Commission has modified the common occurrence provisions of its indemnity agreement to eliminate this possible gap. (§ 140.76 *Appendix B*, par. 6, Article II.)

2. Provisions are included (Article I, par. 4(c)) to protect against double coverage in the event a nuclear incident occurs in transportation of nuclear material between two indemnified licensed facilities. Under these provisions, the shipper's agreement would be applicable and the consignee's agreement would not be applicable.

A principal purpose of provisions covering transportation "to the location" is to cover shipments of nuclear fuel directly from a fuel element fabricator's plant to the site of the reactor in which the elements will be used as fuel.

3. Licensees furnishing proof of financial protection in the form of their own resources are required "to indemnify and hold harmless all persons indemnified as their interest may appear from public liability * * *". This obligation includes coverage of liability for damage to on-site property. Because the form of NELIA–MAELU policy does not cover such liability, the indemnity agreement in § 140.76 *Appendix B*, requires licensees furnishing the policies as financial protection to indemnify any person against liability for damage to on-site property (Article II, par. 2(b)). The Commission has recommended to the Congress that the indemnity provisions of the Atomic Energy Act of 1954 (§ 170) be amended to eliminate coverage of liability for damage to so-called "on-site" property. If such legislation is enacted, paragraph 2b., Article II, of the proposed indemnity agreement (§ 140.76 *Appendix B*) would be deleted and a corresponding change would be made in the provisions of Article III of the agreement. Paragraph 1, Article II, and Article III of the agreement in § 140.77 *Appendix C*, would also be modified.

4. Under the Atomic Energy Act of 1954, as amended, the Commission is required to indemnify against damage to property of persons indemnified, provided that such property is covered under the terms of the financial protection and is not located at the site of, and used in connection with, the activity where the nuclear incident occurs. The financial protection provided by the NELIA–MAELU policy form covers damage to property of persons indemnified only if the property is away from the site. Accordingly, the form of indemnity agreement in Appendix B excludes coverage of damage to on-site property of persons liable for the nuclear incident (Article III, par. 2).

5. A provision is included in the indemnity agreement (Paragraph b. of Item 2 of the Attachment thereto) under which the Commission fills a "gap" between the financial protection and the Commission's indemnity obligation resulting from payments made by the insurers under a nuclear energy liability insurance policy. The agreement does not include the provision, contained in the form published in April 1960, establishing a $1,000,000 floor under the Commission's obligation. In the event that the licensee does not obtain reinstatement of the amount of financial protection within ninety days after the date of a payment under the policy, a provision is included under which the Commission may issue an order requiring the licensee to furnish financial protection in another form (Article II, par. 2(a)).

6. A new article, Article VII, has been added to the indemnity agreement defining the "term" of the indemnity agreement.

7. A number of comments received from members of the public suggest that certain provisions of the indemnity agreement be clarified to indicate more precisely the coverage of the indemnity agreement with respect to the time and place of occurrence of covered "nuclear incidents". The Commission has considered these suggestions, but has not made any change in the text of the agreement with respect to them. It is clear from the definition of "nuclear incident" in paragraph 3, Article I, that the "occurrence or series of occurrences" referred to are those which take place "at the location or in the course of transportation". As stated in the report of the Joint Committee on Atomic Energy on H.R. 7383 (H.R. 435, 85th Cong., 1st Sess.), p. 16, "The occurrence which is the subject of this definition is that event at the site of the licensed activity * * * which may cause damage, rather than the site where the damage may be caused."

From the foregoing, it seems clear also that references in the indemnity agreement to "nuclear incidents occurring during the term of this agreement" (Par. 4, Article II; par. 5, Article III), refer to such "occurrence or series of occurrences at the location or in the course of transportation"; and that any liability for damages caused by such occurrence or series of occurrences is covered by the agreement if the occurrence or series of occurrences takes place within the term of the agreement even though the damage resulted or became manifest after termination of the term of the agreement.

8. The statement of licensee's obligations under subsection 53e(8) of the Atomic Energy Act of 1954, as amended, has been deleted as suggested in a number of comments, and corresponding changes have been made in paragraph 3, Article II. This provision was in paragraph 3, Article II of the form published in April, 1960. The provision formerly in Item 2b(2) of the Attachment has also been deleted. These deletions are not considered as affecting the obligations of the various interests involved. Any obligations of the licensee under subsection 53e(8) of the Act to indemnify the United States and the Commission from public liability are substantially covered by the insurance form in § 140.75 *Appendix A*.

9. Article IV applies in cases where the Commission determines that the United States will probably be required to make indemnity payments under the provisions of the agreement. The Article provides among other things, that the Commission "shall have the right (a) to require the prior approval of the Commission for the settlement or payment of any claim or action asserted against the licensee or other person indemnified * * *". Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters in their

letter of comments dated June 6, 1960 (a copy of which is on file in the Commission's Public Document Room) have objected to these provisions. They object on the ground that in this provision the "Commission has exceeded its statutory authority". They assert also that the provision is "impractical" because it would impede prompt claims handling. The Commission, however, believes it has authority under sections 161 and 170 of the Atomic Energy Act of 1954, as amended, to adopt the provision in question. In connection with the assertion that the provision is impractical, it should be noted that the provision does not require Commission approval, but only reserves to the Commission the right to require Commission approval. It is anticipated that this authority would be exercised only in special circumstances and in such manner as to avoid undesirable delay in the settlement and defense of claims and actions. Discussions have been held with both syndicates looking towards the adoption of an agreement between them and the AEC concerning claims investigations and handling. In light of such arrangements as may be made as the result of those discussions, it may be desirable to reconsider the provisions of Article IV.

10. Article III, paragraph 2, has been revised essentially by adding subparagraphs (c) and (d). These subparagraphs were added further to implement the exception in subsection 11u of the Act for "property which is located at the site of and used in connection with the activity where the nuclear incident occurs."

Changes have also been made in the definition of public liability to exclude indemnity coverage for employees on the transporting vehicle when an incident occurs in the course of transportation.

11. The following amendments also add a provision to Subpart A (§ 140.9) applicable to all indemnity agreements subject to Part 140 providing that the Commission will publish at least a fifteen-day prior notice in the Federal Register of its intent to enter into an indemnity agreement which differs from the applicable form set forth in the appendices in Part 140.

The form indemnity agreements do not affect contractual obligations of suppliers to reactor licensees to repair or replace components furnished by such suppliers.

The form indemnity agreement in § 140.77 *Appendix C*, applies to licensees who furnish financial protection in the form of their own resources. That form is essentially similar to that in § 140.76 *Appendix B*, except for changes required by the difference in the form of financial protection.

The Commission has entered into temporary indemnity agreements with licensees pending adoption of the forms contained in these amendments. After the effective date of these amendments, the Division of Licensing and Regulation will tender to each licensee subject thereto a definitive indemnity agreement. These definitive agreements will, upon due execution, supersede the temporary indemnity agreements.

Notice is hereby given that the Commission has adopted the following amendments to Part 140, 10 CFR, "Financial Protection Requirements and Indemnity Agreements" to be effective ninety days after publication in the Federal Register.

26 FR 6641
Published 7/26/61
Effective 7/26/61

Nuclear Energy Liability Insurance Association has requested Commission approval of an amendatory endorsement which the Commission understands the Association and Mutual Atomic Energy Liability Underwriters propose to place on all nuclear energy liability insurance policies (facility form). The form of the endorsement is set forth in its entirety in the following amendments.

Notice of the proposed approval of the endorsements by the Commission was published in the Federal Register on April 14, 1961 (26 F.R. 3204). In publishing that notice, the Commission stated that the endorsements do not appear to effect material changes in the provisions of the policies. No public comments have been received on the notice.

Notice is hereby given that the following amendment is adopted to be effective upon publication in the Federal Register.

26 FR 7770
Published 8/19/61

On April 22, 1961, the Commission published in the Federal Register the definitive form of indemnity agreement which the Commission will execute with licensees furnishing insurance policies as proof of financial protection (§ 140.76), and the definitive form of indemnity agreement which the Commission will enter into with licensees furnishing proof of financial protection in the form of the licensees resources (§ 140.77). These definitive forms, by the terms of the notice, are to become effective on July 21, 1961.

By letter dated June 5, 1961, an Ad Hoc Committee on Nuclear Liability and Insurance of the Atomic Industrial Forum suggested that the Commission make several changes in the definitive form published as § 140.76 *Appendix B*. The Commission has decided to accept some of these suggestions. The suggestions adopted are all editorial or corrective in nature.

Typographical errors are also corrected in the form published as § 140.77, *Appendix C*.

1. In Paragraph 1, Article II, the phrase "been completed as provided in paragraph 4, Article I" is changed to read "ended as defined in subparagraph 4(b), Article I." This change is made merely to conform the language of Paragraph I, Article II, more closely to the language of subparagraph 4(b), Article I.

2. The inclusion of the word "other" in the phrase "bears to the sum of the limits of liability of all other nuclear liability insurance policies" in paragraph 6(a) and 6(b) of Article II was inadvertent and is, therefore, deleted.

3. The word "licensee" is used three times in the first paragraph of paragraph 6(c), Article II. The first two uses of "licensee" refer to a person who provides financial protection in the form of his own resources while the last use refers to a person who provides financial protection in the form of insurance. While this fact is apparent from the language as published, in order to avoid any possible ambiguity with respect to the use of the word "licensee," the first three lines of paragraph 6(c), Article II, are revised to read: "If any of the other applicable agreements is with a person who has furnished financial protection in a form * * *."

4. The omission of the word "public" before the word "liability" in paragraph 3, Article III, was inadvertent; the word is therefore, added.

5. In Article VII, "ended as defined in subparagraph 4(b), Article I" is substituted for "been completed as provided in Paragraph 4, Article I." This change is made merely to conform the language of Article VII more closely with the language of subparagraph 4(b), Article I.

6. The only changes in the form of indemnity agreement contained in § 140.77 *Appendix C* is the insertion of the letter "(a)" between "employed" and "at" in the sixth line of paragraph 6, Article I, the insertion of the phrase "of the radioactive material" between "transportation" and "on" in the eighth line of paragraph 6, Article I; and the deletion of the word "and" after the letter "(b)" in the ninth line of paragraph 6, Article I. These errors were inadvertent, and the corrections will conform paragraph 6, Article I of Appendix "C" with paragraph 6, Article I, of Appendix "B".

Notice is hereby given that the Commission has adopted the following amendments to the amendments to Part 140, 10 CFR, "Financial Protection Requirements and Indemnity Agreements," which were published in the Federal Register on April 22, 1961:

27 FR 2884
Published 3/29/62
Effective 3/29/62

On April 22, 1961, the Commission published in the Federal Register the form of indemnity agreement which it would execute with licensees furnishing insurance policies as proof of financial protection and the form of indemnity agreement which it would enter into with licensees furnishing proof of financial protection in the form of the licensee's resources. On the same date a proposed amendment to 10 CFR Part 140 was issued for public comment. That proposed amendment contained the forms of indemnity agreement which the Commission would execute with federal agencies and nonprofit educational institutions subject to Part 140. Except for changes made because federal agencies and nonprofit educational institutions are not required to furnish financial protection, the forms of these proposed indemnity agreements were similar to those adopted for execution with licensees who furnish financial protection. Except for changes indicated below, the following amendments substantially adopt these proposed forms.

On November 22, 1961, the Commission issued for public comment a proposed amendment to Part 140 implementing Public Law 87-206, effective September 6, 1961. This statute contains a provision amending the definition of "public liability" in section 11u. of the Atomic Energy Act of 1954, as amended. Prior to enactment of the 1961 statute, the definition of "public liability" included coverage of liability for damage to certain on-site property used in connection with the licensed activity. Public Law 87-206 eliminated indemnity coverage of liability for damage to such on-site property. The following amendments include changes in the forms of indemnity agreement to effectuate the provisions of Public Law 87–206.

No substantive comments were received on either of the proposed amendments.

Opportunity is also taken at this time to correct minor typographical and editorial errors; to clarify §§ 140.52 and 140.72 appropriately to reference the form of indemnity agreement and to revise the language of these sections to conform with § 140.20; to add titles to Appendices "A," "B," "C," "D," and "E" which are policy and indemnity agreement forms; and to revise the provisions of Appendices "C" and "E" to make them consistent with similar provisions in the other indemnity agreement forms.

The principal changes in the form of indemnity agreement contained in § 140.76 *Appendix B*, are as follows:

1. As of 12:01 a.m., September 6, 1961, Paragraph 6 of Article I (definition of "public liability") is amended to delete indemnity coverage for on-site property.

2. As of 12:01 a.m., September 6, 1961, Paragraph 2 of Article II is amended by deleting the "(a)" after the 2 and by deleting the (b) paragraph in its entirety. Paragraph 2(b) required the licensee to indemnify and hold harmless all persons indemnified from public liability for damage to on-site property. Since there is no longer any public liability for on-site property, this provision is deleted.

3. As of 12:01 a.m., September 6, 1961, Paragraph 3 of Article II is amended by deleting the phrase "under paragraph 2(b) of this Article, and". The deletion of paragraph 2(b) requires that this reference also be deleted.

4. As of 12:01 a.m., September 6, 1961, the second paragraph of paragraph 6(c) of Article II is amended by deleting "under paragraph 2(b) of this Article II, and". The deletion of 2(b) also requires that this reference to paragraph 2(b) be deleted.

5. Paragraph 4(a) of Article III is amended by deleting the comma after the word "property". The insertion of this comma was inadvertent.

The principal changes in the form of indemnity agreements contained in § 140.77 *Appendix C*, are as follows:

6. As of 12:01 a.m., September 6, 1961, Paragraph 6, Article I (definition of "public liability") is amended to delete indemnity coverage for on-site property.

7. Paragraph 4(a) of Article III is amended by adding, between the comma and the word "incident" in the fifth line, the following parenthetical phrase: "(other than such property described in the proviso to paragraph 2 of this Article)". This amendment conforms this paragraph with the corresponding paragraphs in the other form indemnity agreements. The omission was inadvertent.

The only principal change in the form of indemnity agreement contained in § 140.78 *Appendix D*, is the amendment, effective as of 12:01 a.m., September 6, 1961, of Paragraph 5, Article I (definition of "public liability") to delete indemnity coverage for on-site property.

The principal changes in the form of indemnity agreements contained in § 140.79 *Appendix E*, are as follows:

8. As of 12:01 a.m., September 6, 1961, Paragraph 5, Article I (definition of "public liability") is amended to delete indemnity coverage for on-site property.

9. Paragraph 1, Article II is amended by deleting the number 1. See Paragraph 13 for reason.

10. Article II is amended by adding "Article III" immediately after Paragraph 1 of old Article II and by adding a Paragraph 1 immediately after the new Article III to read as follows:

> 1. The Commission undertakes and agrees to indemnify and hold harmless the licensee and other persons indemnified, as their interest may appear, from public liability.

See Paragraph 13 for reason.

11. Paragraph 2 of old Article II is amended by deleting the last sentence.

12. Old Article II is amended by changing the numbers of Paragraphs 5, 6, and 7 to 6, 7, and 8 of new Article III, respectively, and by adding a Paragraph 5 to new Article III to read as follows:

> 5. The obligations of the Commission under this agreement shall apply only with respect to nuclear incidents occurring during the term of this agreement.

See Paragraph 13 for reason.

13. Appendix "E" is amended by renumbering Articles III, IV, V and VI to Articles IV, V, VI and VII, respectively. Two new paragraphs (Paragraphs 1 and 5 of new Article III) are added. Opportunity is also taken to separate the provisions pertaining to obligations of the licensee (new Article II) from those pertaining to obligations of the Commission (new Article III) which necessitates the renumbering of old Articles III, IV, V and VI.

Pursuant to the Administrative Procedure Act and the Atomic Energy Act of 1954, as amended, notice is hereby given that the following amendments to Title 10, Chapter I, Part 140 "Financial Protection Requirements and Indemnity Agreements" are adopted to be effective upon publication in the FEDERAL REGISTER, except as otherwise specified below or in Part 140.

28 FR 7077
Published 7/11/63
Effective 8/10/63

The Nuclear Energy Liability Insurance Association and the Mutual Atomic Energy Liability Underwriters have proposed a change in the form of the nuclear energy liability insurance policy set forth in Appendix A of 10 CFR Part 140 (25 F.R. 2944 and 26 F.R. 6641). Appendix A is the form of nuclear energy liability insurance policy issued by the two associations and approved by the Commission as financial protection under 10 CFR Part 140.

Notice of the proposed approval of the change by the Commission was published in the FEDERAL REGISTER on April 20, 1963 (28 F.R. 3918). In publishing the notice, the Commission stated that the change will include as part of the policy the industry credit rating plan previously announced by the associations and does not in any way affect the scope of coverage provided with respect to financial protection since it is only a formal expression of a credit rating plan which has been in effect in principle since the issuance of the original policies by the associations.

One public comment was received from the Pacific Gas and Electric Company which stated:

> We note that the proposed amendment is silent as to the treatment of interest earned on the amount of premiums reserved to cover future losses. In our opinion, the amendment should be modified to provide that interest earned on these reserves should be included in the amount available for refund to the various insureds.

The question raised by PG&E, involving the matter of premium rates, is more appropriately one for resolution by the insured and the insurer since the matter is not within the Commission's area of responsibility.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following amendment to 10 CFR Part 140 is published as a document subject to codification to be effective 30 days after publication in the FEDERAL REGISTER.

29 FR 7710
Published 6/17/64
Effective 6/17/64

On April 8, 1964 (29 F.R. 4919), the Commission published for public comment proposed amendments to 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," consisting of an endorsement to the form of nuclear energy liability insurance policy set forth in Appendix "A", 10 CFR Part 140 (25 F.R. 2944, 26 F.R. 6641 and 28 F.R. 7077), and a related change, for the purpose of clarification, in the form of indemnity agreement set forth in Appendix "B", 10 CFR Part 140 (26 F.R. 3455, 26 F.R. 7770 and 27 F.R. 2884). The form of the endorsement is intended by the insurers, Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters, for use in reinstatement of liability coverage following payment by the insurers of an incurred loss. No comments were received by the Commission regarding these proposed amendments.

Since the form of the endorsement and the clarification in the form of indemnity agreement do not impose any new requirements, and immediate effectiveness will not adversely affect any person, the Commission has found that good cause exists why these amendments should be effective without the customary period of prior notice.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following amendments of 10 CFR Part 140 are published as a document subject to codification to be effective upon publication in the FEDERAL REGISTER.

29 FR 9529
Published 7/14/64
Effective 7/14/64

On May 14, 1964, the Commission published in the FEDERAL REGISTER (29 F.R. 6349) for public comment a proposed amendment to 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," consisting of an endorsement to the form of the nuclear energy liability insurance policy set forth in Appendix "A", 10 CFR Part 140 (25 F.R. 2944, 26 F.R. 6641, 28 F.R. 7077, and 29 F.R. 7710). The form of the endorsement, requested by the insurers, Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters, is intended for use in eliminating from nuclear liability insurance policies coverage of public liability claims which are covered by the Commission's indemnity agreements. One comment, which was favorable, was received by the Commission regarding the proposed amendment.

Since the form of the endorsement does not impose any new requirements, and immediate effectiveness will not adversely affect any person, the Commission has found that good cause exists why this amendment should be made effective without the customary period of prior notice.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following amendment of 10 CFR Part 140 is published as a document subject to codification to be effective upon publication in the FEDERAL REGISTER.

30 FR 14007
Published 11/5/65
Effective 12/5/65

Restoration of Limit of Liability Endorsement

On September 16, 1965, the Commission published in the FEDERAL REGISTER (30 F.R. 11873) for public comment, a proposed amendment to 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," consisting of an amendment to an endorsement to the form of the nuclear energy liability insurance policy set forth in Appendix A, 10 CFR Part 140 (25 F.R. 2948, 26 F.R. 6641, 28 F.R. 7077, 29 F.R. 7710 and 29 F.R. 9529). The amendment would provide for an alternate paragraph in the "Restoration of Limit of Liability Endorsement." The alternative provision would be used when the reduction in the limit of liability results from a clearly identifiable nuclear event and restoration of the limit would be made retroactive to the effective date of the policy for claims other than those resulting from the identified event.

The Commission has decided to adopt the proposed amendment. The text of the amendment set out below is identical with the text of the proposed amendment published September 16, 1965, as corrected by publication September 22, 1965.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following amendment of 10 CFR Part 140 is published as a document subject to codification to be effective thirty (30) days after publication in the FEDERAL REGISTER.

30 FR 14779
Published 11/30/65
Effective 1/1/66

Miscellaneous Amendments

Under the provisions of section 170 of the Atomic Energy Act of 1954, as amended, the holder of a license for a production or utilization facility is required to have and maintain financial protection to cover public liability claims and the Commission is required to indemnify the licensee and other persons indemnified against public liability claims in excess of the amount of financial protection required. Subsection 170b. requires that for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100 electrical megawatts or more, the amount of financial protection required shall be the maximum amount available from private sources. For other licensees, the Commission may require lesser amounts of financial protection. Financial protection may be in the form of private insurance, private contractual indemnities, self insurance, or other proof of financial responsibility, or a combination of such measures. Nonprofit educational institutions and Federal agencies are not required to obtain financial protection.

At present, the maximum amount of financial protection available from private sources is $60 million, the maximum amount of private nuclear energy liability insurance that is available. The insurers who provide such liability insurance, Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters, have advised that effective January 1, 1966, the maximum amount of privately available nuclear energy liability insurance will be increased from $60 million to $74 million. Pursuant to the provisions of subsection 170b. of the Act, the amount of financial protection required for facilities having a rated capacity of 100 electrical megawatts or more will be increased to $74 million, effective January 1, 1966. The following amendments to 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements", reflect this requirement.

These amendments also incorporate into Part 140 the reduction in the amount of Government indemnity that the Commission is authorized to extend to licensees as a result of Public Law 89-210. Public Law 89-210 requires that Government indemnity in the amount of $500 million be reduced by the amount that the financial protection required of the licensee exceeds $60 million.

The Commission is also presently considering whether to amend other provisions of Part 140 to increase the financial protection requirements applicable to licensees of power and testing reactors having an authorized thermal power level in excess of 1 megawatt but not having a rated capacity of 100 electrical megawatts or more. This matter is the subject of a separate public notice issued simultaneously herewith.

Since the amendments set out below merely conform the Commission's regulations to a statutory requirement which will become operative when the amount of privately available insurance is increased on January 1, 1966, the Commission has found that general notice of proposed rule making and public procedures thereon are unnecessary.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following amendments of Title 10, Chapter 1, Part 140, Code of Federal Regulations, are published as a document subject to codification, to be effective January 1, 1966.

32 FR 2562
Published 2/7/67
Effective 3/9/67

Miscellaneous Amendments

See Part 70 Statements of Consideration.

32 FR 8124
Published 6/7/67
Effective 8/6/67

Change in the Amount of Financial Protection Required for Certain Reactors

On November 30, 1965, the Atomic Energy Commission published an amendment to 10 CFR Part 140, effective January 1, 1966, (1) increasing from $60 million to $74 million, the amount of financial protection required of licensees of facilities having a rated capacity of 100 electrical megawatts or more (who are required by statute to have and maintain financial protection in the maximum amount available from private sources) and (2) reducing the amount of indemnity extended by the Commission to such licensees by a like amount (30 F.R. 14779). Simultaneously with the publication of this amendment the Commission published a notice of proposed rule making (30 F.R. 14814) stating that it was considering whether to effect a proportional increase (approximately 23 percent) in the financial protection requirements for licensees of power or testing reactors having an authorized thermal power level in excess of one megawatt but having a rated electrical capacity less than 100 megawatts (licensees governed by application of the formula set forth in 10 CFR 140.12). Interested persons were invited to submit comments or suggestions within 60 days after publication of the notice.

After careful consideration of the comments received and other factors involved, the Commission has decided to adopt the amendments set forth below. The amendments would effect an increase of approximately 23 percent in the financial protection requirements for licensees governed by application of the formula set forth in 10 CFR 140.12. The increase would be proportional to the increase made effective January 1, 1966, for reactors having a rated capacity of 100 electrical megawatts or more.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 140, § 140.12, are published as a document subject to codification, to be effective sixty (60) days after publication in the FEDERAL REGISTER.

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33 FR 15998
Published 10/31/68
Effective 12/1/68

Criteria for Determination of an Extraordinary Nuclear Occurrence

On May 9, 1968, the Commission published for comment in the FEDERAL REGISTER (33 F.R. 6978) proposed amendments to its regulation, "Financial Protection Requirements and Indemnity Agreements," 10 CFR Part 140, which would effectuate the amendments to the Price-Anderson Act of 1966 (Public Law 89–645) providing for waivers of certain defenses in the event of an extraordinary nuclear occurrence.

The principal purpose of the amendments is to assure that the public will receive prompt financial compensation under the available indemnity and underlying financial protection for damage resulting from the hazardous properties of radioactive material or radiation. All interested persons were invited to submit written comments or suggestions for consideration in connection with the proposed amendments to 10 CFR Part 140 within 60 days after publication of the notice of proposed rule making in the FEDERAL REGISTER. The notice also announced that an industry conference would be held on June 11, 1968, at the Commission's offices at 1717 H Street NW., Washington, D.C., to discuss the provisions of the proposed amendments to 10 CFR Part 140.

After careful consideration of the comments received, the views presented at the industry conference, and other factors, the Commission has adopted the amendments set forth below. In most essential respects, the amendments are the same as those set forth in the notice of proposed rule making. However, there are some changes from the proposed rule. As will be indicated, the Commission is providing an opportunity for comment on these changes, but the amendments will be effective 30 days after publication. The principal changes are described below.

New § 140.82 *Procedures,* provides that, if the Commission is unable to make a determination, within 7 days after it has received notification of an alleged event, that there has been an extraordinary nuclear occurrence, it will publish a notice in the FEDERAL REGISTER of the initiation of a procedure for the making of a determination. Such notice will request persons having knowledge of the alleged occurrence to submit their information to the Commission.

New § 140.83 *Determination of extraordinary nuclear occurrence,* provides that the 90-day period for the making of a determination runs from the time of publication of a notice in the FEDERAL REGISTER that the Commission is considering the making of a determination, and also makes clear that the Commission may extend the 90-day time period.

New § 140.84 *Criterion I–substantial discharge of radioactive material or substantial radiation levels offsite,* contains revisions from the proposed rule with respect to surface contamination. The Statement of Considerations published in connection with the proposed rule made clear the intent that Criterion I would not be met by a release of radioactive material within or not greatly in excess of the limits set forth in the Commission's regulations and in license conditions. It has come to the Commission's attention that with respect to some facilities the description of the location (site) for purposes of the Price-Anderson indemnity agreement is so narrowly defined geographically that it is possible under normal operating conditions for levels of contamination in restricted or controlled areas which are offsite to exceed the levels proposed in the table of total surface contamination levels. The table has been revised by applying a factor of 10 to the proposed levels where the contaminated offsite property is contiguous to the site and is owned or leased by the licensee, who is thus able to control access to the area. As was explained in the Statement of Considerations, the levels originally proposed were intended to represent only an administrative index for determining that something unexpected and out of the ordinary has taken place. The higher levels set by the application of a factor of 10 for contamination of property where the public is generally excluded are consonant with this concept and in keeping with the Price-Anderson Act's purpose of protecting the public. The levels originally proposed are applicable to all other offsite property. It should be noted that this revision involves no change in Criterion II.

New § 140.85 *Criterion II–substantial damages to persons offsite or property-offsite,* now makes clear that "damage" in all cases refers to damage from the radioactive, toxic, explosive, or other hazardous properties of source, special nuclear, or byproduct material. New § 140.85 also lowers the test for substantial damages to persons offsite by changing from ten to five the number of people the Commission would have to find were killed or hospitalized by physical injury from exposure.

The amendments to the form of nuclear energy liability policy for facilities and to the forms of indemnity agreements with licensees contained in the Appendices to 10 CFR Part 140 (§ § 140.91 through 140.95) are changed from the proposed amendments in the following respects:

(1) The waiver of an issue or defense relating to unforeseeable intervening causes no longer refers to the "operation of a force of nature," since that formulation appears to be only an alternative way of stating the more commonly used term "act of God" which is covered specifically by the rule.

(2) The proposed exclusion in the waivers of defenses relating to the abnormally sensitive character of the claimant's activities or operations is not being adopted at this time. The Commission is not fully convinced of the appropriateness of the exclusion and, at any rate, there appears to be considerable dispute on the appropriate formulation of the abnormally sensitive defense.

One of the tests for meeting Criterion II (§ 140.85) refers to $2,500,000 or more of damage offsite which has been or will probably be sustained by any one person. While no change in this formulation appears to be necessary, it should be understood that the test can be met by a person sustaining the requisite amount of damage by operation of law rather than because of ownership of the damaged property, for example, a railroad, in the event of damage to lading owned by numerous persons but cumulatively totaling the requisite amount.

It has been the intention of the Commission, in connection with these amendments to Part 140, to eliminate the 2-year discovery provision in nuclear policies furnished as proof of financial protection. The Commission still intends to accomplish this change as soon as possible, but final agreement with insurers has not yet been reached.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to 10 CFR Part 140 are published as a document subject to codification to be effective 30 days after publication in the FEDERAL REGISTER. The Commission invites all interested persons who desire to submit written comments or suggestions with respect to the changes made from the proposed rule to send them to the Secretary, U.S. Atomic Energy Commission, Washington, D.C. 20545, within 90 days after publication of this notice in the FEDERAL REGISTER. Consideration will be given such submission with the view to possible amendments to the rule.

34 FR 705
Published 1/17/69
Effective 2/1/69

Miscellaneous Amendments

Under the provisions of section 170 of the Atomic Energy Act of 1954, as amended, the holder of a license for a production or utilization facility is required to have and maintain financial protection to cover public liability claims, and the Atomic Energy Commission is required to indemnify the licensee and other persons indemnified against public liability claims in excess of the amount of financial protection required. Subsection 170b requires that for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100 electrical megawatts or more, the amount of financial protection required shall be the maximum amount available from private sources. For other licensees, the Commission may require lesser amounts of financial protection. Financial protection may be in the form of private insurance, private contractual indemnities, self-insurance or other proof of financial responsibility, or a combination of such measures. Nonprofit educational institutions and Federal agencies are not required to obtain financial protection.

At present, the maximum amount of financial protection available from private sources is $74 million, the maximum amount of private nuclear energy liability insurance that is available. The insurers who provide such liability insurance, Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters, have advised the Commission that effective January 1, 1969, the maximum amount of privately available nuclear energy liability insurance will be increased from $74 million to $82 million. Pursuant to the provisions of subsection 170b of the Act, the amount of financial protection required for facilities having a rated capacity of 100 electrical megawatts or more will be increased to $82 million, effective February 1, 1969. The following amendments to 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," reflect this requirement.

The Commission is also considering whether to amend other provisions of Part 140 to increase the financial protection requirements applicable to licensees of power and testing reactors having an authorized thermal power level in excess of 1 megawatt but below 100 electrical megawatts. This matter will be the subject of a separate public notice to be issued in the future.

Since the amendments set out below conform the Commission's regulations to a statutory requirement, the Commission has found that good cause exists for omitting public notice of proposed rule making and public procedure thereon as unnecessary and for making the amendments effective without the customary 30-day notice.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to title 10, Chapter 1, Part 140, Code of Federal Regulations, are published as a document subject to codification, to be effective February 1, 1969.

34 FR 19546
Published 12/11/69
Effective 12/11/69

Miscellaneous Amendments

See Part 20 Statements of Consideration.

36 FR 21580
Published 11/11/71
Effective 12/11/71

Waivers of Defenses Endorsement

On May 6, 1971, the Atomic Energy Commission published in the FEDERAL REGISTER proposed amendments to 10 CFR Part 140, Financial Protection Requirements and Indemnity Agreements, and a proposed endorsement to the facility form of nuclear liability insurance policy furnished as financial protection, to clarify the waivers of defenses provisions in the facility form and in the AEC indemnity agreement forms (36 FR 8451). Interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendments within 30 days after publication of the notice of proposed rule making in the FEDERAL REGISTER. After consideration of the material submitted in response to the notice of proposed rule making and other factors involved, the Commission has adopted the amendments and approved the endorsement as proposed. The endorsement to the facility form and the amendments to the Commission indemnity agreement forms clarify that a licensee's workers who are employed at an indemnified site exclusively in connection with the construction of a nuclear reactor with respect to which no operating license has been issued by the Atomic Energy Commission, and who are not employed in connection with the possession, storage, use or transfer of nuclear material at the facility, will maintain their rights under the waivers of defenses provisions of the facility form and of the indemnity agreement. The waivers of defenses provisions in the event of an "extraordinary nuclear occurrence" are also intended to be available to an indemnified licensee's employees engaged at an indemnified location in the construction of a follow-on production or utilization facility (nuclear power reactor) for which no operating license has been issued.

It is the intention of the insurers and the Commission that claimants employed exclusively in connection with the construction of a nuclear reactor include those employees engaged in maintaining a facility, the construction of which is essentially complete in an appropriate state of readiness pending the receipt by the applicant of the operating license, even though the maintenance duties in connection with the facility may not be full time.

The insurers who provide nuclear liability insurance, Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters, have agreed to the addition of the clarifying endorsement to the forms of insurance policies issued by them. The amendments reflect that agreement and correspondingly amend the Commission forms of indemnity agreement.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to 10 CFR Part 140 are published as a document subject to codification, to be effective 30 days after publication in the FEDERAL REGISTER.

38 FR 2983
Published 1/31/73
Effective 3/2/73

Indemnity Locations

On May 6, 1972, the Atomic Energy Commission published in the FEDERAL REGISTER (37 FR 9227) a proposed amendment to 10 CFR Part 140, Financial Protection Requirements and Indemnity Agreements, which would specify how the Commission will determine the geographical boundaries of indemnity locations in indemnity agreements for the preoperational storage of fuel at the site of a power reactor under construction, and the geographical boundaries of indemnity locations where a nuclear reactor is operating and an additional power reactor is under construction nearby on a contiguous site by the same licensee.

Interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendment within 60 days after publication of the notice of proposed rule making in the Federal Register. After consideration of the comments received, the Commission has adopted the proposed amendment with certain changes.

The principal point in three of the comments, submitted by utilities, was that the proposed amendment would increase their insurance costs from nuclear property pools during construction. However, since the nuclear liability insurers are presently using the broader site concept for new policies, utilities have already found it necessary to purchase nuclear property insurance for the construction site whereas in the past they had been able to purchase "builder's risk" insurance at lower premiums. This amendment reflects such use of the broad concept by both nuclear liability insurers and nuclear property insurers. As stated in connection with the proposed rule published in the Federal Register on May 6, 1972, this amendment may not be susceptible of application to all circumstances (e.g., where conventional builder's risk policies, subject to a nuclear exclusion, remain in effect at some units, construction of which was commenced when such coverage was still available). Where the Commission on application of any affected person or on its own initiative determines that a departure from this proposed method would be authorized by law and otherwise in the public interest, it may establish a different indemnity location in individual cases.

The Commission believes that the amendment, by widening the geographical boundaries of the indemnity location to include the entire construction area of nuclear power reactors, will assure that indemnity funds in the highly unlikely event of a nuclear incident, will be available to the general public and will not be diluted in compensation of possible property losses at the site of the reactor under construction.

In order to eliminate the ambiguity of the phrase "the entire construction area of the nuclear power reactor" as used in the proposed amendment, the words "as determined by the Commission" have been added. A sentence to the effect that such area will not necessarily be coextensive with the indemnity location which will be established at the time an operating license is issued for additional nuclear power reactors has also been included.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendment of 10 CFR Part 140 is published as a document subject to codification, to be effective on March 2, 1973.

38 FR 11066
Published 5/4/73
Effective 6/4/73

Nuclear Energy Liability Policy

On February 5, 1973, the Atomic Energy Commission published in the Federal Register (38 FR 3336) a proposed amendment to 10 CFR part 140, "Financial Protection Requirements and Indemnity Agreements," which would be reflected in the facility form set out in § 140.91, and would extend from 2 to 10 years the period after termination or cancellation of the Nuclear Energy Liability Insurance Policy (facility form) during which a written claim may be made against the insurer which alleges bodily injury or property damage caused during the policy period.

Interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendment within 30 days after publication of the notice of proposed rulemaking in the Federal Register. General Electric submitted the only comment prior to the March 7, 1973, expiration period. Their comment was an endorsement of the amendment.

Under the 2-year discovery provision currently in effect in the nuclear facility policy, there is the possibility that termination of the policy after a nuclear incident may result in exclusion of a significant portion of the insurer's liability from the coverage of the policy. Such a possibility has particular significance in connection with radiation injuries because such injuries may not become evident until some years after exposure has occurred. In addition, there could be a gap in the financial protection afforded under such policies since the applicable State statute of limitations might provide for a period longer than 2 years during which suits might be instituted.

Pursuant to the Atomic Energy Act of 1954, as amended, and section 553 of title 5 of the United States Code, the following amendment of 10 CFR part 140 is published as a document subject to codification, to be effective June 4, 1973.

40 FR 7081
Published 2/19/75
Effective 3/21/75

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

Miscellaneous Amendments

The provisions of section 170 of the Atomic Energy Act of 1954, as amended, (the Act) require the holder of a license for a production or utilization facility to have and maintain financial protection to cover public liability claims. Section 170 of the Act in conjunction with section 201 of the Energy Reorganization Act of 1974 requires the Nuclear Regulatory Commission to indemnify the licensee and other persons indemnified against public liability claims in excess of the amount of financial protection required. Subsection 170b. of the Act requires that for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100 electrical megawatts or more, the amount of financial protection required shall be the maximum amount available from private sources. For other licensees, the Commission may require lesser amounts of financial protection. Financial protection may be in the form of private insurance, private contractual indemnities, self-insurance or other proof of financial responsibility, or a combination of such measures. Nonprofit educational institutions and Federal agencies are not required to obtain financial protection.

The insurers who provide the nuclear liability insurance, Nuclear Energy Liability Insurance Association and Mutual Atomic Energy Liability Underwriters, have advised the Commission that effective January 1, 1975, the maximum amount of privately available nuclear energy liability insurance would be increased from $110 million to $125 million. Pursuant to the provisions of subsection 170b. of the Act, the amount of financial protection required for facilities having a rated capacity of 100 electrical megawatts or more will be increased to $125 million, effective March 21, 1975. The following amendments to 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," reflect this requirement.

Since the amendments set out below conform the Commission's regulations to a statutory requirement, the Commission has found that good cause exists for omitting public notice of proposed rule making and public procedure thereon as unnecessary.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Part 140, Code of Federal Regulations, are published as a document subject to codification.

40 FR 8774
Published 3/3/75
Effective 3/3/75

Energy Reorganization Act; Revisions to Chapter I to Reflect Organizational and Procedural Changes

See Part 2 Statements of Consideration.

41 FR 16445
Published 4/19/76
Effective 4/19/76

Miscellaneous Changes to Chapter

See Part 20 Statements of Consideration.

42 FR 46
Published 1/3/77
Effective 8/1/77

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

Implementation of Legislation Amending the Price-Anderson Act

On December 31, 1975, H.R. 8631 was enacted as Pub. L. 94-197. This legislation modifies and extends for ten years (to August 1, 1987) the present Price-

Anderson Act.[1] The Price-Anderson Act established a system of Government indemnity and license conditions requiring certain licensees to have financial protection designed to compensate the public for damages caused by nuclear incidents. On March 18, 1976, a notice of intent to amend 10 CFR Part 140 to implement the provisions of Pub. L. 94–197 was published in the FEDERAL REGISTER (41 FR 11327). The purpose of that notice was to invite recommendations in the form of written comments and suggestions from interested persons.

The Commission received a number of comments on the notice. After consideration of the comments and other factors involved, on September 20, 1976, the Commission published a notice of proposed rulemaking in the FEDERAL REGISTER (41 FR 40511) to implement provisions of Pub. L. 94–197. Only thirteen comments were received in response to the proposed rule. Of these comments few differed with the substance of the proposed rule. Most of the comments raised questions of interpretation or clarification.

1. By December 31, 1976, the Commission must establish at some level in the range of $2 million to $5 million, the amount of the retrospective premium to be assessed against each licensee required to maintain financial protection.

The Commission proposed establishing the retrospective premium at $5 million per facility per incident. Of the thirteen comments received in connection with the proposed rule, only two addressed this issue. One commenter recommended that the retrospective premium be established in the range of $2 million to $3 million so as not to impair the ability of utilities to acquire new capital while the other suggested a sliding premium schedule under which the retrospective premium would not reach $5 million until 1983.

The Commission has considered these comments. When the Commission proposed establishing the retrospective premium at $5 million, these same concerns were carefully evaluated. To obtain advice on the financial impact that retrospective premiums of $2 million to $5 million would have on different size utilities, the Commission staff engaged the services of an outside consultant. Based upon his analysis, Dr. Ronald Melicher, Associate Professor of Business, University of Colorado, concluded that a retrospective premium assessment of $5 million per reactor would not have a significant financial impact on representative small, medium and large size utilities. By analyzing the cash flow of representative utilities as well as the impact of a $5 million retrospective premium on interest coverage and earnings per share, Dr. Melicher concluded that the representative utilities studied would have financial resources that would be more than adequate to cover a $5 million retrospective premium assessment for reactors currently operating, under construction, or being planned. The Commission agreed with Dr. Melicher's conclusions. None of the comments received on this question refuted the conclusions of the Melicher study.

The Commission has concluded that there are considerations that favor establishing the retrospective premium at $5 million. First, while such a premium would not present any undue financial burden on any size utility, it would ensure the termination of Government indemnity at the earliest feasible date. Further, a $5 million retrospective premium would result in the maximum financial protection available to pay public liability claims and, therefore, a limit of liability in the event of a nuclear incident at the highest amount permitted by Pub. L. 94–197. For these reasons, the Commission is establishing the retrospective premium at $5 million per reactor per incident.

2. Pub. L. 94–197 authorized the Commission to establish a maximum amount which the aggregate retrospective premiums charged for each facility within one calendar year may not exceed. Congress viewed the establishment of such a maximum as serving to remove retrospective premium assessements as a potential open-ended liability and as providing assurance to publicly owned utilities that retrospective premium assessments would not be construed as the lending of credit prohibited by some state constitutions.

Two of the commenters discussed this question. The comments recommended that based on the remote probability of more than a single nuclear incident occurring in any calendar year the maximum amount be set equal to a single retrospective premium per facility. Further, the comments also expressed the belief that contrary to the interpretation adopted by the Commission, the maximum amount was meant to limit the liability of a utility in a calendar year rather than the total payments for charges made by the insurance pools in a calendar year.

The Commission has considered these arguments. While the Commission agrees that the probability of even a single nuclear incident in a calendar year is quite remote, there is another purpose to be served by setting the maximum amount at more than just equal to one assessment per facility. If a nuclear incident did result in public liability claims, payment of many of these claims would presumably be made within the months following the incident. However, if the incident occurred near the end of the calendar year, a number of claims could be carried over for payment in a subsequent year. Further, since one could reasonably expect that public liability claims could be filed many years after the nuclear incident occurred—especially in view of the Act's provision that, in the event of an extraordinary nuclear occurrence, suits may be brought for up to twenty years after the date on which the incident occurred—this could result in claims being settled many years after the year in which the nuclear incident occurred. In order to ensure that funds would exist to pay all of the delayed claims for an earlier incident, as well as the claims that could arise from a nuclear incident in a given year, it is necessary to establish the maximum amount at greater than just a single retrospective premium per facility.

The Commission does not agree with the interpretation that the purpose of the maximum amount was to limit the liability of the utility to a fixed amount, but believes that its purpose was only to limit the retrospective premiums the utility would be required to pay in any one year. Because each utility would know beforehand the maximum amount of retrospective premiums it would be required to pay in any one calendar year, premium assessments are then prevented from becoming an open-ended charge in any one year. The Commission believes this is the purpose of establishing a maximum amount. The maximum amount does not in any way limit the number of incidents or the liability for these incidents for which a utility may be charged retrospective premiums. For the reasons discussed above, the Commission has concluded that the maximum amount of deferred premiums charged for each facility within one calendar year be established at $10 million per facility. However, this provision is clarified so as to eliminate any ambiguities present in the proposed rule as to whether the maximum aggregate represented the amount charged the utility or the liability (whether charged in that year or not) accrued by the utility.

3. Pub. L. 94–197 authorizes the Commission to establish amounts less than the standard retrospective premiums for individual facilities on the basis of such factors as the facility's size, location and other factors pertaining to the hazard. In the notice of proposed rule making, the Commission did not propose the establishment of lower retrospective premiums for individual facilities. It did not appear that development of premiums less than the standard retrospective premium would increase the protection provided to the public.

In view of the foregoing and since none of the comments on the proposed rule addressed this question, the Commission is not establishing lower retrospective premiums for individual facilities.

4. The Commission is directed by Pub. L. 94–197 to establish requirements necessary to assure that following a nuclear incident deferred premiums will be paid as called for. One of the comments received on this issue suggested that a separate guarantee of premiums is not necessary because the Commission reviews a licensee's financial stability at various stages of the licensing process. Further, it was stated that the use of any type of guarantee would impede a licensee's line of credit and increase electricity costs. While the Commission recognizes these arguments, the success of the retrospective premium assessment program is dependent upon the likelihood that the retrospective premiums would be available when needed. The Commission believes, therefore, that utilities should provide some form of independent assurance not based on previous statements that they would not default on their obligations.

It was for this reason that the Commission proposed rules which established requirements for such guarantees. A licensee would be afforded the opportunity to meet these guarantee requirements by providing through any one of a number of alternative methods the amount of $10 million for each large power reactor it would be licensed to operate. The alternatives would be:

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[1] 42 U.S.C. 2210 and pertinent subsections in 42 U.S.C. 2014.

1. Surety bonds;
2. Letters of credit:
3. Revolving credit/term loan arrangements;
4. Maintenance of escrow deposits of government securities;
5. Annual certified financial statement showing either that a cash flow (i.e., cash available to a company after all operating expenses, taxes, interest charges, and dividends have been paid) can be generated and would be available for payment of retrospective premiums within three (3) months after submission of the statement, or a cash reserve or a combination of cash flow and cash reserve; and
6. Such other type of guarantee approved by the Commission

Two of the comments received in connection with this question suggested that in those cases where as its guarantee a utility chooses to file certified annual financial statements demonstrating the adequacy of cash flow, the Commission not treat dividends as a reduction of cash flow. While on the one hand, the Commission recognizes that creditor claims such as claims for payment of deferred premiums have a clear priority over payment of dividends, the nonpayment of dividends by a utility is an extreme step. Therefore, the Commission believes it desirable to take the more conservative approach of requiring a utility to provide proof of cash flow for $10 million after dividends have been paid.

None of the comments received that address the issue of guarantees of retrospective premiums point up either the unavailability of any of the guarantees or any problems with the methods of guarantee that the Commission has proposed. In view of the foregoing, the Commission is establishing requirements for such guarantees and licensees will be afforded the opportunity to provide any one of the stated alternative methods for assuring the payment of these premiums. The effective rule is modified slightly, however, to clarify that all methods of guarantee are with respect to $10 million and not just the cash flow method.

5. Pub. L. 94–197 authorizes the Commission to provide reinsurance or otherwise guarantee the payment of retrospective premiums in the event that the resources of the nuclear liability insurance pools are not sufficient to absorb defaults by licensees in payment of the retrospective premiums and if licensee guarantees fail. In the Commission's notice of proposed rule making, provisions were inserted in indemnity agreements providing that any amount paid by the Commission to cover defaulted retrospective premiums would create an immediate lien in favor of the United States upon the licensee's property. In addition, it was proposed that provisions be inserted in indemnity agreements to require licensees defaulting in the payment of retrospective premiums to provide certified financial statements to the Commission. After reviewing these statements, the Commission would then determine whether a licensee were financially able to reimburse the Commission for payments made on the licensee's behalf. If a determination were made that a licensee was financially able to reimburse the Commission, the licensee would be given 120 days to do so. Any reimbursement not made during this period could result in a thirty-day suspension of the license and possible termination of the license by the Commission.

The Commission continues to believe that these lien provisions offer the greatest assurance of reimbursement for payments made because of any defaults in retrospective premiums. While the creation of liens upon a licensee's assets does not offer absolute assurance of reimbursement to the Commission (since these liens could be subordinate to other creditors' claims), such liens could provide a valuable tool for reimbursement of any Government payment.

The only comment received on this issue suggested that licensees defaulting in the payment of retrospective premiums should be given 180 to 270 days instead of 120 days to reimburse the Commission. The Commission has considered this suggestion, but believes that the additional time for reimbursement is not necessary in view of the fact that a licensee will probably not, in the first instance, be called upon to pay retrospective premiums for some months after a nuclear incident. When this period between the nuclear incident and the call for payment is added to the 120 day period a licensee has in which to pay the defaulted retrospective premiums, sufficient time to repay the Commission is considered to be provided. To extend the period beyond this is not considered reasonable.

6. Pub. L. 94–197 authorized the Commission to reduce the annual indemnity fee of $30 per thermal megawatt capacity imposed on each reactor licensee in reasonable relation to increases in financial protection required above a level of $60 million.

The Commission has proposed establishing a five-tiered schedule which both adheres to the intent of Pub. L. 94–197 to reduce fees in reasonable relation to increases in financial protection, and is relatively simple to administer. The schedule also reflects the view that, as ultimate guarantor of the retrospective premium and as evaluator of the financial ability of reactor licensees to pay such retrospective premiums, the Government should levy a minimum fee for such services even if there is no indemnity obligation. No comments were received on this issue.

Therefore, the indemnity fee schedules which the Commission will establish for reactors are as follows:

(a) For indemnification of $500 million to $400 million inclusive, a fee of $30.00 per year per thousand kilowatts of thermal capacity authorized in the license;

(b) For indemnification from $399 million to $300 million inclusive, a fee of $24.00 per year per thousand kilowatts of thermal capacity authorized in the license;

(c) For indemnification from $299 million to $200 million inclusive, a fee of $18.00 per year per thousand kilowatts of thermal capacity authorized in the license;

(d) For indemnification from $199 million to $100 million inclusive, a fee of $12.00 per year per thousand kilowatts of thermal capacity authorized in the license;

(e) For indemnification from $99 million to $1 million inclusive, a fee of $6.00 per year per thousand kilowatts of thermal capacity authorized in the license.

No fee would be less than $100 per annum for any nuclear reactor. This minimum fee would continue to be levied after indemnity is phased out, in consideration of the Government's ultimate role as guarantor of the retrospective premium. For those instances in which a certified financial statement is provided as a guarantee of payment of deferred premiums, a fee of $1,000 or the indemnity fee, whichever is greater, would be required. This reflects the additional effort that would be required of the Commission to evaluate this guarantee option as opposed to options where third parties are providing the guarantee of payment of the retrospective premium for licensees.

7. The Commission proposed exercising its discretionary authority to require persons licensed to possess plutonium in the amount of 5 kilograms or more[1] and persons licensed to process plutonium in the amount of 1 kilogram or more[1] for use in plutonium processing and fuel fabrication plants to maintain financial protection in the amount of $125 million. Indemnity coverage would be extended to such licensees.

All three comments received that addressed this issue disagreed with the Commission and recommended that in view of the limited operating experience with these types of commercial facilities the Commission either not establish financial protection requirements for these licensees or establish interim requirements of $20 million. The Commission has considered these suggestions, but believes that there are definite benefits to be derived by establishing financial protection requirements at $125 million. First is the basic thrust of the Price-Anderson Act itself—namely, that the public should be assured compensation for damages resulting from those segments of the nuclear industry that may involve significant consequences. With the basic financial protection layer and Government indemnity resulting in a combined coverage of $560 million, the public would be adequately assured availability of funds for payment of claims resulting from nuclear incidents associated with the possession or use of significant quantities of plutonium at plutonium processing and fuel fabrication plants. Second, several licensees in the plutonium processing and fuel fabrication industry already maintain the maximum amount of financial protection available from private sources (currently $125 million). Third, the Commission has been advised that those licensees who currently buy less than $125 million in nuclear insurance would pay a maximum additional premium of less than $40,000 per year to obtain $125 million in coverage. The Commission believes that such an additional premium is not unreasonable. In view of the foregoing, the Commisison is establishing financial protection requirements of $125 million for those persons licensed to possess 5 kilograms or more[1] of plutonium and those persons licensed to process 1 kilogram or more[1] of plutonium for use in plutonium processing and fuel fabrication plants. The Commission is also establishing a $5,000 per year indemnity fee for these licensees. The proposed rule has been modified slightly to clarify that the determining factor with respect to the Commission's requirement that a licensee maintain $125 million in financial protection and be indemnified by the Commission is the quantity of plutonium that a person is licensed to possess rather than the actual quantity that is currently in the licensee's possession.

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[1] Excluding that contained in sealed sources and welded or otherwise sealed unirradiated or irradiated fuel rods.

The Commission along with other interested persons has recognized that there may be a need to further exercise its discretionary authority to extend Price-Anderson coverage to other materials licensees. The Commission will continue to consider the possible extension of its discretionary authority to such materials licensees.

This rule does not contain any provisions implementing (or interpreting) the amendments to H.R. 8631 introduced by Senator Hathaway, agreed to by the Senate, and contained in Pub. L. 94-197 regarding exclusion of the costs of investigating and settling claims from funds used for the payment of claims.

Although establishment of the retrospective premium and certain other proposed changes in 10 CFR Part 140 must be accomplished by December 31, 1976, the Commission proposes that these changes be made effective on August 1, 1977, so as to afford the Commission, the insurance pools and the licensees reasonable opportunity to implement these changes.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and Sections 552 and 553 of Title 5 of the United States Code, the following amendments to 10 CFR Part 140 are published as a document subject to codification.

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42 FR 20139
Published 4/18/77
Effective 5/1/77

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

Miscellaneous Amendments

AGENCY: Nuclear Regulatory Commission.

ACTION: Final Rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations "Financial Protection Requirements and Indemnity Agreements," to increase the level of the primary layer of financial protection required of certain indemnified licensees, and make certain other minor changes in indemnity agreement forms and in the facility form of nuclear liability insurance policy furnished as financial protection. The Commission is amending its regulations at the present time to coincide, as statutorily required, with the increase in the level of the primary layer of insurance provided by private nuclear liability insurance pools.

EFFECTIVE DATE: May 1, 1977.

FOR FURTHER INFORMATION CONTACT:

> Mr. Ira Dinitz, Antitrust and Indemnity Group, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301-443-6961.

SUPPLEMENTARY INFORMATION: The provisions of section 170 of the Atomic Energy Act, as amended, (the Act) require production and utilization facility licensees to have and maintain financial protection to cover public liability claims resulting from a nuclear incident. The Commission has exercised its discretionary authority to require persons licensed to possess plutonium in the amount of 5 kilograms or more and persons licensed to process plutonium in the amount of 1 kilogram or more for use in plutonium processing and fuel fabrication plants to also maintain financial protection at the maximum amount available from private sources. Section 170 of the Act, in conjunction with section 201 of the Energy Reorganization Act of 1974, as amended, requires the Nuclear Regulatory Commission to indemnify the licensee and other persons indemnified, up to the statutory limitation on liability, against public liability claims in excess of the amount of financial protection required. Subsection 170b. of the Act requires that for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100 electrical megawatts or more, the amount of financial protection[1] required shall be the maximum amount available from private sources. For other licensees, the Commission may require lesser amounts of financial protection. Primary financial protection may be in the form of private insurance, private contractual indemnities, self-insurance or other proof of financial responsibility, or a combination of such measures. Nonprofit educational institutions and Federal agencies are exempted by statute from the financial protection requirements.

The insurers who provide the nuclear liability insurance, Nuclear Energy Liability-Property Insurance Association (NEL-PIA) and Mutual Atomic Energy Liability Underwriters (MAELU), have advised the Commission that effective January 1, 1977, the maximum amount of private nuclear energy liability insurance available was increased from $125 million to $140 million. Pursuant to the provisions of subsection 170b. of the Act, the amount of primary financial protection required for facilities having a rated capacity of 100 electrical megawatts or more will be increased to $140 million, effective May 1, 1977. In accordance with recent amendments to 10 CFR Part 140 (42 FR 46, January 3, 1977), licensees of plutonium processing and fuel fabrication plants required to maintain the maximum amount of financial protection will have to comply with this requirement on August 1, 1977. The following amendments to 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," reflect this requirement.

Other changes to Part 140 to implement Pub. L. 94-197 relate to the extension of indemnity protection to (1) indemnified shipments of new or spent fuel while outside of the United States and any other nation during transit from one NRC licensee to another and (2) stationary nuclear facilities, such as floating nuclear power plants, licensed by the NRC and located in international waters. There is one slight difference between the endorsement to the facility form of nuclear liability insurance policy submitted by NEL-PIA and the amendments to the Commission indemnity agreement form implementing this change. The endorsement, unlike the indemnity amendments, will not extend coverage at this time to nuclear material being transported to or from a floating nuclear power plant. This coverage would be extended, however, before such a plant would be licensed.

Pub. L. 94-197 also provided that in the event of an "extraordinary nuclear occurrence" the Commission could enforce provisions in an insurance policy furnished as proof of financial protection and incorporated in indemnity agreements, requiring a licensee to waive any defense based upon a statute of limitations if suit is instituted within 3 years from the date on which the claimant first knew or reasonably could have known of his injury or damage, but in no event more than 20 years after the date of the nuclear incident. Before the enactment of Pub. L. 94-197., the extension of the time for initiating of a suit for damages was only 10 years after the date of the nuclear incident. Both the endorsement to the facility form and the indemnity agreement forms implement this change as set forth below.

Apart from the change discussed above, there is one additional nonsubstantive modification in the present waiver of defenses endorsement submitted by NEL-PIA that differs from the waiver of defenses endorsement now contained in § 140.91. The existing endorsement was amended by addition of a new paragraph 6 published in the FEDERAL REGISTER on November 11, 1971 (36

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[1] Public Law 94-197 does not by its precise language require maintenance of a "primary" (i.e., nuclear liability insurance) layer and a "secondary" (i.e., retrospective premium) layer of financial protection but merely considers the combination of these two layers as "financial protection." However, the recently published amendments (42 FR 46, Jan. 3, 1977) to 10 CFR Part 140 implementing part of Public Law 94-197, distinguish between primary and secondary layer of financial protection on the basis of their different insurance characteristics. The amendments in this rule relate solely to increases in the primary layer of financial protection

FR 21580). That new paragraph basically provided that a licensee's workers employed at an indemnified site exclusively in connection with the construction of a nuclear reactor for which no operating license had been issued would be permitted to take advantage of the waiver of defenses provisions of the facility form. The nuclear liability insurance pools intended that this paragraph be published as a separate endorsement and not as a part of the general waiver endorsement. Hence, this paragraph is now being retained as a separate endorsement.

This rule does not contain any provisions implementing (or interpreting) the amendments to H.R. 8631 introduced by Senator Hathaway, agreed to by the Senate and contained in Pub. L. 94–197 regarding exclusion of the costs of investigating and settling claims from funds used for the payment of claims.

Since the amendments set out below conform the Commission's regulations to a statutory requirement, the Commission has found that good cause exists for omitting public notice of proposed rule making and public procedure theron as unnecessary.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Part 140, Code of Federal Regulations, are published as a document subject to codification.

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42 FR 43385
Published 8/29/77
Effective 8/29/77

PART 50—LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

PART 140—FINANCIAL PROTECTION REQUIREMENTS AND INDEMNITY AGREEMENTS

Revocation or Modification of Certain Reporting Requirements

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulation "Licensing of Production and Utilization Facilities" to revoke the requirement that if the construction or modification of a facility is completed before the earliest date specified in the construction permit the holder of the construction permit shall promptly notify the Commission for the purpose of accelerating the final inspection. The Commission also is amending its regulation "Financial Protection Requirements and Indemnity Agreements" to modify the repetitive reporting requirements set out in special provisions applicable to licensees furnishing financial protection in whole or in part in the form of adequate resources. These amendments reduce the reporting burden on NRC licensees.

EFFECTIVE DATE: August 29, 1977.

FOR FURTHER INFORMATION CONTACT:

Gerald L. Hutton, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Tel. 301–492–7211.

SUPPLEMENTARY INFORMATION: Section 50.55(a) of 10 CFR Part 50 requires that if the construction or modification of a facility is completed before the earliest date specified in the construction permit, the holder of the construction permit shall promptly notify the Commission for the purpose of accelerating the final inspection. A separate report for this event is not necessary and this reporting requirement is being revoked.

Section 140.18 of 10 CFR Part 140 requires that in any case where a licensee undertakes to maintain financial protection in the form specified in § 140.14(a)(2) for all or part of the financial protection required by Part 140, the licensee shall file with the Commission a balance sheet and operating statement prepared and certified by a certified public accountant. This section is being revised so that it no longer requires repetitive reports, but states that the Commission may require the licensee to file with the Commission such financial information as the Commission determines to be appropriate for the purpose of determining whether the licensee is maintaining financial protection as required by Part 140.

Since the amendments set forth below relate to minor matters and are intended to provide relief from, rather than to impose, restrictions under regulations currently in effect, the Commission has found that good cause exists for omitting general notice of proposed rule making and public procedure thereon as unnecessary and for making the rule effective on August 29, 1977, without the customary 30 day waiting period.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended and Sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 50 and 140 are published as a document subject to codification.

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44 FR 20632
Published 4/6/79
Effective 5/1/79

10 CFR Part 140

Financial Protection Requirements and Indemnity Agreements; Miscellaneous Amendments

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final Rule.

SUMMARY: The provisions of Section 170 of the Atomic Energy Act of 1954, as amended, require production and utilization facility licensees to have and maintain financial protection to cover public liability claims resulting from a nuclear incident.

The Nuclear Regulatory Commission is amending its regulations to increase the level of the primary layer of financial protection required of certain indemnified licensees. The Commission is amending its regulations at the present time to coincide, as statutorily required, with the increase in the level of the primary layer of insurance provided by private nuclear liability insurance pools.

EFFECTIVE DATE: May 1, 1979.

FOR FURTHER INFORMATION CONTACT: Mr. Ira Dinitz, Antitrust and Indemnity Group, U.S. Nuclear Regulatory Commission, Washington, DC 20555. (Phone: 301–492–8336).

SUPPLEMENTARY INFORMATION: The provisions of Section 170 of the Atomic Energy Act of 1954, as amended, (the Act) require production and utilization facility licensees to have and maintain financial protection to cover public liability claims resulting from a nuclear incident. Section 170 of the Act, requires the Nuclear Regulatory Commission to indemnify the licensee and other persons indemnified, up to the statutory limitation on liability, against public liability claims in excess of the amount of financial protection required. Subsection 170b. of the Act requires that for facilities designed for producing substantial amounts of electricity and having a rated capacity of 100 electrical megawatts or more, the amount of financial protection [1] required shall be the maximum amount available from private sources. For other licensees, the Commission may require lesser amounts of financial protection. Primary financial protection may be in the form of private insurance, private contractual indemnities, self-insurance or other proof of financial responsibility, or combination of such measures.

The insurers who provide the nuclear liability insurance, American Nuclear Insurers (ANI) and Mutual Atomic Energy Liability Underwriters (MAELU), have advised the Commission that effective January 9, 1979, the maximum amount of primary nuclear energy liability insurance available was increased from $140 million to $160 million. Pursuant to the provisions of subsection 170b. of the Act, the amount of primary financial protection required for facilities having a rated capacity of 100 electrical megawatts or more will be increased to $160 million, effective May 1, 1979. In addition, in compliance with 10 CFR Part 140, those persons licensed to possess plutonium in the amount of 5 kilograms or more and persons licensed to process plutonium in the amount of 1 kilogram or more for use in plutonium processing and fuel fabrication plants will also be required to provide financial protection in the amount of $160 million.

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[1] The Act does not by its precise language require maintenance of a "primary" (i.e., nuclear liability insurance) layer and a "secondary" (i.e., retrospective premium) layer of financial protection but merely considers the combination of these two layers as "financial protection." However 10 CFR Part 140, of the Commission's regulations that implement the Act, distinguishes between the primary and secondary layers of financial protection. The amendments in this rule relate solely to increases in the primary layer of financial protection.

Since the amendments set out below conform the Commission's regulations to a statutory requirement, the Commission has found that good cause exists for omitting a value/impact analysis, public notice of proposed rule making and public procedure thereon as unnecessary.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Part 140, Code of Federal Regulations, are published as a document subject to codification.

45FR14199
Published 3/5/80
Effective 3/5/80

Minor and Clarifying Amendments

See Part 1 Statements of Consideration

45 FR 37410
Published 6/3/80
Effective 6/3/80

10 CFR Parts 95 and 140

Deletion of Reference to Panama Canal Zone; Minor Amendments

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is deleting references to the Panama Canal Zone in Parts 95 and 140 of its regulations. This action was taken in regard to all other parts of the Commission's regulations on March 24, 1980 (45 FR 18905). Parts 95 and 140 were inadvertently excluded from that previous action. These minor amendments reflect the provisions of the Panama Canal Treaty of 1977 and the recently enacted Panama Canal Defense Act of 1979. Under the Act and the Treaty, the U.S. Government relinquished jurisdiction over the Panama Canal Zone to the Republic of Panama. These amendments revise portions of the Commission's regulations to reflect the revised status of the Canal Zone.

EFFECTIVE DATE: June 3, 1980.

FOR FURTHER INFORMATION CONTACT: Joseph M. Felton, Director, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone: 301–492–7211.

SUPPLEMENTARY INFORMATION: Under the Panama Canal Treaty of 1977, the territory of the former Panama Canal Zone became subject to the jurisdiction of the Republic of Panama on October 1, 1979. The Treaty, and the recently enacted Panama Canal Defense Act of 1979 (P.L. 96–70) passed on September 27, 1979, supersede all previous legislation. Thus, all references in the Atomic Energy Act to the Canal Zone as being jurisdictionally part of the United States are no longer valid. Therefore, the Nuclear Regulatory Commission is deleting references to the Canal Zone from Parts 95 and 140 of its regulations in Title 10, Chapter 1 of the Code of Federal Regulations.

Since these amendments are corrective and relate solely to minor procedural matters, notice of proposed rulemaking and public procedure thereon are unnecessary and good cause exists to make the amendments effective upon publication in the **Federal Register**.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Parts 95 and 140 are published as a document subject to codification.

48 FR 1029
Published 1/10/83
Effective 2/9/83
➢ Correction published 2/28/83 48 FR 8256

10 CFR Part 140

Modification of Indemnity Agreements

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Commission's regulations presently provide that if the Commission intends to enter into an indemnity agreement with provisions different from those in a standard form indemnity agreement or intends to modify a standard form indemnity agreement, then the Commission must publish notice of this intent in the Federal Register and allow 15 days for interested persons to file petitions for leave to intervene with respect to the proposed amendment. The Commission is amending its regulations to retain the public notice provision but to delete the opportunity for public intervention and comment. The Commission is adopting this amendment because the scope of public comment appropriate for an action of this type is so restricted that the opportunity for public comment is unnecessary.

EFFECTIVE DATE: February 9, 1983.

FOR FURTHER INFORMATION CONTACT: Eric E. Jakel, Esq., Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone: (301) 492–8691.

SUPPLEMENTARY INFORMATION: The Commission's regulations (in 10 CFR 140.9) presently provide that if the Commission intends to enter into an indemnity agreement with provisions different from those in a standard form indemnity agreement or intends to modify a standard form indemnity agreement, then the Commission must publish notice of this intent in the Federal Register and allow 15 days for interested persons to file petitions for leave to intervene with respect to the proposed amendment. On July 23, 1982, the Commission published in the Federal Register (47 FR 31887) a proposed rule to amend its regulations to retain the public notice provision but to delete the opportunity for public intervention and comment. The Commission proposed amending 10 CFR 140.9 by removing the second sentence of that section. Currently, § 140.9 provides:

> ***§ 140.9 Modifications of indemnity agreements.***
>
> The Commission will publish in the Federal Register a notice of its intent to enter into an indemnity agreement, or agreement amending an indemnity agreement, which contains provisions different from the form of the applicable indemnity agreement set forth in the appendices to this part, as such appendices may be amended from time to time. Such notices will provide at least a fifteen-day period following the date of publication in the Federal Register in which interested persons may file petitions for leave to intervene with respect to the proposed agreement.

The Commission has interpreted § 140.9 to mean that it only need solicit and consider written public comments on whether the language proposed to modify the indemnity agreements effectively implements the Commission's policy decision to exercise its descretionary authority to extend Price-Anderson indemnity coverage in any given situation. See 42 FR 44617, September 8, 1977; and 46 FR 55024, November 5, 1981. Comments addressing any other issue are not considered relevant.

Because granting a hearing or requesting public comment on such an insubstantial point, as the precise wording of an amendment to the standard indemnity agreement, is not meaningful, the Commission proposed to delete the second sentence of this section as unnecessary.

Two letters of comment were received in response to the notice of proposed rulemaking. Both letters expressed support for the proposed rule. One letter of comment recommended deleting all of the appendices to 10 CFR Part 140. Deletion of these appendices is an action that the Commission favors. In the near future, the Commission will publish a proposed rule soliciting public comment on this action. A rulemaking action resulting in deletion of these appendices would necessitate a conforming change to Part 140 deleting § 140.9 in its entirety.

No significant adverse comments or questions were received on the notice of proposed rulemaking, nor were any substantial changes in the text indicated. Therefore, the final rule being adopted by the Commission is identical to the proposed rule published for public comment.

Paperwork Reduction Act Statement

Pursuant to the provisions of the Paperwork Reduction Act of 1980 (Pub. L. 96–511), the NRC has made a determination that this rule would not impose new recordkeeping, application, reporting, or other types of information collection requirements.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the NRC certifies that this rule will not have a significant economic impact on a substantial number of small entities. The rule affects the licensing and operation of nuclear reactors. The companies and institutions who own these reactors do not fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or in the Small Business Size Standards set out in regulations issued by the Small Business Administration at 13 CFR Part 121. Since the companies that will be affected by this rule are dominant in their service areas, this rule does not fall within the purview of the Act.

Llist of Subjects in 10 CFR Part 140

Extraordinary nuclear occurrence, Insurance, Intergovernmental relations, Nuclear materials, Nuclear power plants and reactors, Penalty, Reporting requirements.

Under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 552 and 553, the following amendment to 10 CFR Part 140 is published as a document subject to codification.

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48 FR 8256
Published 2/28/83

10 CFR Part 140

Modification of Indemnity Agreements

Correction

In FR Doc. 83–625 beginning on page 1029 in the issue of Monday, January 10, 1983, make the following correction.

On page 1030, second column, in the Authority Citation, second paragraph, last line, "905" should read "950".

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49 FR 11146
Published 3/26/84
Effective 4/23/84

10 CFR Part 140

Financial Protection Requirements and Indemnity Agreements; Facility Form Policy

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is adding statements to its regulations that would indicate that the text of the Facility Form policy, including any codified amendatory endorsement or change to the policy, is an example of a contract that has been "accepted" as evidence of financial protection but that other variations on the text would be considered by the Commission. This action, which is discussed in Section 1, is intended to remove the misimpression that the Commission requires its nuclear power reactor licensees to maintain financial protection containing the exact language presented in the text of the Facility Form policy. Section 2 of the Notice contains two amendatory endorsements that modify certain definitions in the Facility Form policy. Section 3 contains the standard secondary master policy form which is published for codification and which certain licensees are maintaining as secondary financial protection. Finally, Section 4 contains other minor changes to conform certain sections of 10 CFR Part 140 both to Pub. L. 94–197 and the Atomic Energy Act of 1954, as amended.

DATE: This amendment becomes effective April 23, 1984.

FOR FURTHER INFORMATION CONTACT: Ira Dinitz, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone (301) 492–9884.

SUPPLEMENTARY INFORMATION: *Section 1*—In a proposed rule published on October 19, 1983 (48 FR 48474), the Commission sought comment on its decision to continue to publish Appendices A through H to 10 CFR Part 140 with certain clarifying statements made to Appendix A. (Appendix A is the Facility Form policy furnished by certain licensees as evidence of financial protection; Appendices B through H, except for Appendix F, are standard form indemnity contracts executed by the Commission and its licensees). This new language would state that the codified text of the Facility Form policy and amendatory endorsements to the policy were merely examples of contracts that the Commission would consider acceptable as proof of financial protection, but that other variations of the text would be considered as well. This language would remove the misimpression that the Commission was placing its imprimatur on all of the language in the text of the Facility Form.

The Commission's decision to continue publishing the Appendices to 10 CFR Part 140 was made after considering the comments received in connection with a Notice of Proposed Rulemaking published in the Federal Register on March 4, 1983 (48 FR 9284). That Notice sought public comment on the question of deleting Appendices A through H to 10 CFR Part 140. Eighteen comments were received on the Notice, and all of the commenters argued against removing the Appendices from the regulations.

Six comments have been received in response to the Notice published on October 19, 1983. Commenters included the nuclear insurance pools, trade organizations and utilities, and law firms representing utilities. One commenter supported the proposed rule. Another commenter opposed the rule as published because he believed it would allow insurance Commissioners in each State to adopt different approved policy forms. The remaining four commenters, supporting the proposed rule, suggested two minor revisions which the Commission has adopted to remove present ambiguities in the proposed rule. The first modification conforms the introductory paragraph to § 140.91, Appendix A, to the modifications made in § 140.15. This clarifies the Commission's intent that variations to the standard form of nuclear liability insurance policy for a particular facility may be submitted by the licensee for that facility. The second change adds the words "and its other statutory duties" to the last sentence of the introductory paragraph of Section 140.91 to reflect the fact that the Commission has authority under subsection 170b. of the Atomic Energy Act to consider matters other than "public protection."

Section 2—Two amendatory endorsements are also published in final form in this rule. These endorsements, NE–50 and NE–51, which were published for comment in the **Federal Register** on February 18, 1981 (46 FR 12750), modify the definition of "insured shipments" to conform to the change made in the statutory definition of "byproduct material" in Pub. L. 95–604, the Uranium Mill Tailings Radiation Control Act of 1978, and also relieve the insurers of liability arising out of inspections. Both changes are contained in one endorsement, NE–51, that is used for policies issued before January 1, 1981. Endorsement NE–50 has been used with policies issued on or after January 1, 1981.

Section 3—In order to implement the provisions of Pub. L. 94–197, the Commission is publishing for codification in 10 CFR Part 140 a standard master policy form which the Commission has determined to be adequate proof that a licensee is maintaining the necessary secondary financial protection required by subsection 170b. of the Atomic Energy Act of 1954, as amended. This standard master policy form was submitted by the Nuclear Energy Liability-Property Insurance Association (NEL–PIA), the predecessor organization to American Nuclear Insurers (ANI), one of the two liability insurance pools. (An additional policy identical to the published policy has been submitted by the Mutual Atomic Energy Liability Underwriters (MAELU), the other liability insurance pool, but will not be published separately.)

Since August 1, 1977, the Commission has utilized a binder furnished by these two insurance pools as evidence of adequate secondary financial protection. The binder is almost identical to the standard master policy form and in the Commission's view meets all the requirements for implementation of Pub. L. 94–197.

Both the master secondary financial protection policy and the accompanying certificate of insurance, which names the utility insureds, establish the terms and conditions under which the insureds are responsible for the payment of the retrospective premium and, in addition, establish the liability of the insurance pools for the non-payment of the premiums in the event of default by the insureds. The secondary financial policy establishes the conditions under which the retrospective insurance premium becomes payable and contains additional terms and conditions to (1) establish the total contingent liability of the insuring companies in the event of retrospective premium defaults; (2) establish the requirements with which the insureds must comply in notifying the insuring companies of a nuclear incident; (3) establish the right of recovery by the insuring companies for any policy; and (4) cancel the policy for both the insuring companies and insureds.

On April 6, 1979, the Commission published for comment a proposed rule in the **Federal Register** (44 FR 20709) which contained the standard master policy form submitted by NEL–PIA. Only two letters of comment were received in response to this notice of proposed rulemaking. The first, submitted by NEL-PIA on behalf of both NEL-PIA and MAELU, simply provided editorial corrections. These changes have been incorporated in the secondary financial protection policy. The second letter of comment was submitted by Ropes and Gray, a law firm representing Yankee Atomic Electric Company, Connecticut Yankee Atomic Power Company, Vermont Yankee Nuclear Power Company and the several joint owners of the Seabrook Project. This letter suggested certain detailed changes in the secondary financial protection policy that the commenter believed would be advisable to clarify situations where multiple licensees own a single reactor. Basically, the Ropes and Gray position is that the secondary financial protection policy, as proposed, is at variance with subsection 170b. of the Atomic Energy Act of 1954, as amended, by not making a clear distinction between the concept of an "aggregate assessment against 'each facility' and the pro rata retrospective premiums charge against each licensee."

The Commission has analyzed the Ropes and Gray position and does not agree with it. Subsection 170b. does not differentiate between a license issued to a single utility and a license issued to more than one utility for the operation of a jointly owned reactor. The financial protection requirement applies to all co-licensees included under the term "licensee" as a unit and not separately to each of the co-licensees.

Ropes and Gray raises an additional concern in its comments relating to the "joint and severally liable" issue. The argument is made that placing a "joint and severally" obligation upon a public utility is in effect a lending of credit by one utility to another utility. Such an obligation, it is asserted, may require prior approval by either Federal of state governmental agencies. The Commission does not agree with this position. The lending of credit concern was discussed by public power representatives during hearings held in late 1975 by the Joint Committee on Atomic Energy on H.R. 8631, the bill that was enacted into law as Pub. L. 94–197. The thought was expressed at that time that the retrospective premium system might be construed to be in violation of some State constitutions, which prohibit a municipal utility from lending its credit or making expenditures for other than public purposes. The Joint Committee Report accompanying H.R. 8631 stated:

> Furthermore, the deferred premium should not be interpreted as establishing a responsibility by one licensee for a liability or debt of another. The potential deferred premiums are considered by the Joint Committee to have fundamentally the same status as any other such insurance premium. The bill authorizes the Commission to establish a maximum limit on the amount of deferred premiums which can be charged to a facility in any one year. The purpose of this provision is to clarify the status of the premiums and to ensure that they cannot be construed as the lending of credit by any licensee and thus raise constitutional problems for some publicly owned utilities.*

Section 4—Finally, although the cost of investigating the settling liability claims and defending suits for damage is retained as part of financial protection, i.e., both primary and secondary insurance, the final rule modifies certain sections of 10 CFR Part 140 in conformance with Pub. L. 94–197 to exclude these costs from government indemnity. The amendments to Part 140 also include clarifying modifications, that were not in the proposed rule, to the definitions of the terms "financial protection" and "in the course of transportation" as used in the forms of indemnity agreements.

Paperwork Reduction Act Statement

This effective rule does not contain a new or amended information collection requirement subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). Existing requirements were approved by the Office of Management and Budget approval number 3150–0039.

Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission hereby certifies that this rule will not have a significant economic impact on a substantial number of small entities. The rule affects in part two named nuclear liability insurance underwriting pools. These two pools are the only ones in the United States writing nuclear liability policies, and do not fall within the definition of a small business found in section 3 of the Small Business Act, 15 U.S.C. 632, or within the Small Business Size Standards set forth in 13 CFR Part 121.

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* Joint Committee on Atomic Energy Report No. 94-648, November 19, 1975 p.11

List of Subjects in 10 CFR Part 140

Extraordinary nuclear occurrence, Insurance, Intergovernmental relations, Nuclear materials, Nuclear power plants and reactors, Penalty, Reporting and recordkeeping requirements

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Part 140, Code of Federal Regulations, are published as a document subject to codification.

49 FR 19623
Published 5/9/84
Effective 5/9/84

Information Collection Requirements; Display of OMB Control Numbers

See Part 0 Statements of Consideration

≫ 50 FR 30415
Published 7/26/85

10 CFR Part 140

Financial Protection Requirements and Indemnity Agreements; Indemnification of Spent Reactor Fuel Stored at a Reactor Site Different Than the One Where It Was Generated

AGENCY: Nuclear Regulatory Commission.

ACTION: Exercise of discretionary statutory authority.

SUMMARY: The Commission has decided to exercise its discretionary statutory authority under the Price-Anderson Act and again extend Government indemnity to spent reactor fuel stored at a particular reactor site different than the one where it was generated. Absent this action by the Commission, this spent reactor fuel would not have been covered by Government indemnity in the event of a nuclear incident at the site where this spent fuel was stored and where the reactors involved have the same licensee.

FOR FURTHER INFORMATION CONTACT: Mr. Ira Dinitz, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492-9884.

SUPPLEMENTARY INFORMATION: Most operating reactor licensees have increased, or are planning to increase, the capacity of their onsite spent fuel storage pools. In some instances where the capacity of the storage pools at the reactor site cannot be increased sufficiently to meet the licensee's needs, fuel storage may be sought at another location. One method of storing spent fuel away from the reactor from which it is discharged is to store it in the spent fuel pool of another of the same licensee's reactors but at a different site.

The Commission has received a request from Duke Power Company to authorize and indemnify this type of activity. The Duke Power request is for Commission authorization permitting Duke to store spent fuel discharged from its Oconee Units 1, 2, and 3 at its McGuire Unit 2 reactor. Duke is seeking Price-Anderson indemnity protection for all such storage of spent fuel at the distant reactor location. The Commission considered and approved similar requests by Carolina Power and Light Company in August 1977 and Duke Power Company in November 1982 (See **Federal Register** Notice 42 FR 44615 and 46 FR 55024).

Under the Price-Anderson Act (section 170 of the Atomic Energy Act of 1954, as amended (the Act)), financial protection and government indemnity are *mandatory* for production and utilization facilities, such as reactors, licensed under section 103 and section 104 of the Act. This financial protection and indemnity covers the "licensed activity" which encompasses not only possession and operation of the reactor facility itself but also certain ancillary activities including (1) possession of the new fuel (containing special nuclear material) being stored on-site for use in the reactor and (2) on-site storage of spent fuel following irradiation at that reactor. Mandatory indemnification does not extend to the fuel when it is stored at another reactor site.

Possession of spent fuel away from the facility where it was generated, i.e., at a location where it is not used in connection with the operation of the facility, is not a part of the ancillary activity of possession and operation of the facility where the spent fuel is to be stored. As a result, after being transferred from the reactor site where it was generated to some other site, possession of such spent fuel must be licensed under other provisions of the Act which authorize licenses for possession and use of the special nuclear and byproduct material and would not be subject to the mandatory indemnity requirements of the Act providing that the Commission require financial protection of and indemnify reactor (and other production and utilization facility) licensees. Accordingly, no indemnity protection automatically would be afforded spent fuel stored away from the facility where it is produced or used. To indemnify this spent fuel, the Commission must require the licensee at whose facility the spent fuel will be stored to maintain financial protection and to be indemnified by exercising its *discretionary* authority under section 170 of the Act. For the purposes of Price-Anderson coverage, this exercise of discretionary authority would result in treating spent fuel produced at one reactor site but stored at a different site the same as spent fuel stored at the site of the reactor where it was produced. Thus, irradiated fuel generated by a reactor at one site whether stored by itself in the spent fuel pool of a reactor at a different site or commingled with the second reactor's irradiated fuel in that reactor's spent fuel pool would be covered by financial protection and indemnity.

The NRC believes that it would not be desirable to have a situation where spent fuel generated by one reactor and stored in the spent fuel pools of a second reactor at a different site would be unindemnified while the spent fuel produced by the second reactor and stored at the same site would be indemnified. If indemnity coverage were not extended to the spent fuel generated by the first reactor but stored at the site of a second reactor and if an accident occurred involving the fuel storage pool it would be virtually impossible to determine whether indemnified or unindemnified spent fuel caused the accident.

In view of the foregoing, the Commission has decided to exercise its discretionary authority under section 170 of the Atomic Energy Act of 1954, as amended, and will modify Duke's indemnity agreement at the McGuire's facility to permit the storage of Oconee's irradiated fuel at McGuire. As required in 10 CFR 140.9, the Commission is publishing this amendment, which would redefine the term "the radioactive material" in Article I, paragraph 9 in the McGuire Indemnity Agreement B-83, to read as follows:

> The radioactive material means source, special nuclear and byproduct material which (1) is used, was used or will be used in, or is irradiated, was irradiated or will be irradiated by, the nuclear reactors licensed under NPF-9 and NPF-17 or (2) was used in, or was irradiated in the nuclear reactors licensed under DPR-38, DPR-47, and DPR-55 and subsequently is transported to the site of the nuclear reactors licensed under NPF-9 and NPF-17 for the purpose of storage or (3) which is produced as a result of operation of the nuclear reactors licensed under NPF-9 and NPF-17.

This amendment relates to changes in an indemnity agreement incorporated into a 10 CFR Part 50 license. Accordingly, this amendment meets the eligibility critria for categories exclusion set forth in 10 CFR 51.22(c)(10)(i). Pursuant to 10 CFR 51.22(b), no environmental impact statement nor environment assessment need be prepared in connection with the issuance of this amendment.

(5 U.S.C. 552; Pub. L. 83-703, 68 Stat. 919 as amended by Pub. L. 85-256, 71 Stat. 576, as amended (42 U.S.C. 2210).

Dated at Bethesda, Maryland, this 22nd day of July 1985.

For the Nuclear Regulatory Commission.

William J. Dircks,

Executive Director for Operations.

PART 150

EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274

GENERAL PROVISIONS

ec.
50.1 Purpose.
50.2 Scope.
50.3 Definitions.
50.4 Communications.
50.5 Interpretations.

CONTINUED COMMISSION REGULATORY AUTHORITY IN OFFSHORE WATERS

50.7 Persons in offshore waters not exempt.
50.8 Information collection requirements: OMB approval.

EXEMPTIONS IN AGREEMENT STATES

50.10 Persons exempt.
50.11 Critical mass.

CONTINUED COMMISSION REGULATORY AUTHORITY IN AGREEMENT STATES

50.14 Commission regulatory authority for physical protection.
50.15 Persons not exempt.
50.15a Continued Commission authority pertaining to byproduct material.

CONTINUED COMMISSION AUTHORITY IN AGREEMENT STATES

50.16 Submission to Commission of nuclear material transfer reports.
50.17 Submission to Commission of source material reports.
50.17a Compliance with requirements of US/IAEA safeguards agreement.
50.19 Submission to Commission of tritium reports.

RECIPROCITY

50.20 Recognition of Agreement State licenses.
50.21 Transportation of special nuclear material by aircraft.

ENFORCEMENT

50.30 Violations.

Authority: Sec. 161 68 Stat. 948, as
mended, sec. 274, 73 Stat. 688 (42 U.S.C
201, 2021); sec. 201, 88 Stat. 1242, as
mended (42 U.S.C. 5841).
Sections 150.3, 150.15, 150.15a, 150.31
50.32 also issued under secs. 11e(2), 81, 68
tat. 923, 935, as amended, secs. 83, 84, 92
tat. 3033, 3039 (42 U.S.C. 2014e(2), 2111, 2113,
114). Section 150.14 also issued under sec.
3, 68 Stat. 930, as amended (42 U.S.C. 2073).
ection 150.17a also issued under sec. 122, 68
tat. 939 (42 U.S.C. 2152). Section 150.30 also
ssued under sec. 234, 83 Stat. 444 (42 U.S.C.
282).
For the purposes of sec. 223, 68 Stat. 958, as
mended (42 U.S.C. 2273); §§ 150.20(b) (2)–(4)
nd 150.21 are issued under sec. 161b, 68 Stat.
48, as amended (42 U.S.C. 2201(b)); § 150.14
issued under sec. 161i, 68 Stat. 949, as
mended (42 U.S.C. 2201(i)); and §§ 150.16–
50.19 and 150.20(b)(1) are issued under sec.
61o, 68 Stat. 950, as amended (42 U.S.C.
201(o)).

GENERAL PROVISIONS

§ 150.1 Purpose.

The regulations in this part provide certain exemptions to persons in Agreement States from the licensing requirements contained in Chapters 6, 7, and 8 of the Act and from the regulations of the Commission imposing requirements upon persons who receive, possess, use or transfer byproduct material, source, or special nuclear material in quantities not sufficient to form a critical mass; and to define activities in Agreement States and in offshore waters over which the regulatory authority of the Commission continues. The provisions of the Act, and regulations of the Commission apply to all persons in Agreement States and in offshore waters engaging in activities over which the regulatory authority of the Commission continues.

46 FR 44149

§ 150.2 Scope.

The regulations in this part apply to all States that have entered into agreements with the Commission or the Atomic Energy Commission pursuant to subsection 274b of the Act.

§ 150.3 Definitions.

As used in this part:

(a) "Act" means the Atomic Energy Act of 1954 (68 Stat. 919) including any amendments thereto;

27 FR 1351

(b) "Agreement State" means any State with which the Commission or the Atomic Energy Commission has entered into an effective agreement under subsection 274b of the Act. "Nonagreement State" means any other State.

46 FR 44149

(c) "Byproduct material" means: (1) Any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material; or (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute "byproduct material" within the definition.

44 FR 50012

(d) "Commission" means the Nuclear Regulatory Commission or its duly authorized representatives;

(e) "Government agency" means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

27 FR 1351

(f) "Offshore waters" means that area of land and water, beyond Agreement States' Submerged Lands Act jurisdiction, on or above the U.S. Outer Continental Shelf.

46 FR 44149

(g) "Person" means: (1) Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, group, agency, and State or any political subdivision of any political entity within a State, and any legal successor, representative, agent, or agency of the foregoing other than Government agencies;

(h) "Production facility" means: (1) Any equipment or device determined by rule of the Commission to be capable of the production of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or (2) any important component part especially designed for such equipment or device as determined by the Commission;

(i) "Source material" means: (1) Uranium, thorium, or any other material which is determined by the Commission pursuant to the provisions of section 61 of the Act to be source material; or (2) ores containing one or more of the foregoing materials, in such concentration as the Commission may by regulation determine from time to time;

46 FR 44149

(j) "Special nuclear material" means (1) plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing but does not include source material;

46 FR 44149

(k) "State" means any State, Territory, or possession of the United States, Puerto Rico, and the District of Columbia;

(l) "Utilization facility" means (1) any equipment or device, except an atomic weapon, determined by rule of the Commission to be capable of making use of special nuclear material in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public, or peculiarly adapted for making use of atomic energy in such quantity as to be of significance to the common defense and security, or in such manner as to affect the health and safety of the public; or (2) any important component part especially designed for such equipment or device as determined by the Commission

§ 150.4 Communications.

Except where otherwise specified in this part, all communications and reports concerning the regulations in this part should be addressed to the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Communications and reports may be delivered in person at the Commission's offices at 1717 H Street, N.W., Washington, D.C. or at 7920 Norfolk Avenue, Bethesda, Maryland.

40 FR 8774

§ 150.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

27 FR 1351

CONTINUED COMMISSION REGULATORY AUTHORITY IN OFFSHORE WATERS

46 FR 44149

§ 150.7 Persons in offshore waters not exempt.

Persons in offshore waters are not exempt from the Commission's licensing and regulatory requirements with respect to byproduct, source, and special nuclear materials.

§ 150.8 Information collection requirements: OMB approval.

(a) The Nuclear Regulatory Commission has submitted the information collection requirements contained in this part to the Office of Management and Budget (OMB) for approval as required by the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). OMB has approved the information collection requirements contained in this part under control number 3150-0032.

(b) The approved information collection requirements contained in this part appear in §§150.16, 150.17, 150.17a, 150.19, 150.20, and 150.31.

(c) This part contains information collection requirements in addition to those approved under the control number specified in paragraph (a) of this section. These information collection requirements and the control numbers under which they are approved are as follows:

(1) In §§ 150.16 and 150.17, Form NRC-741 is approved under control number 3150-0003.

(2) In § 150.20, Form NRC-241 is approved under control number 3150-0013.

49 FR 19623

EXEMPTIONS IN AGREEMENT STATES

§ 150.10 Persons exempt.

Except as provided in §§ 150.15, 150.16, 150.17, 150.17a, 150.18 and 150.19, any person in an Agreement State who manufactures, produces, receives, possesses, uses, or transfers byproduct material, source material, or special nuclear material in quantities not sufficient to form a critical mass is exempt from the requirements for a license contained in Chapters 6, 7, and 8 of the Act, regulations of the Commission imposing licensing requirements upon persons who manufacture, produce, receive, possess, use, or transfer such materials, and from regulations of the Commission applicable to licensees. The exemptions in this section do not apply to agencies of the Federal government as defined in § 150.3.

37 FR 9207

§ 150.11 Critical mass.

(a) For the purposes of this part, special nuclear material in quantities not sufficient to form a critical mass means uranium enriched in the isotope U-235 in quantities not exceeding 350 grams of contained U-235; uranium-233 in quantities not exceeding 200 grams; plutonium in quantities not exceeding 200 grams; or any combination of them in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of such ratios for all kinds of special nuclear materials in combination shall not exceed the limitation and are within the formula, as follows:

$$\frac{175\ (\text{grams contained U-235})}{350} + \frac{50\ (\text{grams U-233})}{200} + \frac{50\ (\text{grams Pu})}{200} = 1$$

27 FR 1351

(b) To determine whether the exemption granted in § 150.10 applies to the receipt, possession or use of special nuclear material at any particular plant or other authorized location of use, a person shall include in the quantity computed according to paragraph (a) of this section the total quantity of special nuclear material which he is authorized to receive, possess or use at the plant or other location of use at any one time.

30 FR 12609

CONTINUED COMMISSION REGULATORY AUTHORITY IN AGREEMENT STATES

§ 150.14 Commission Regulatory Authority for Physical Protection.

Persons in Agreement States possessing, using or transporting special nuclear material of low strategic significance in quantities greater than 15 grams of plutonium or uranium-233 or uranium-235 (enriched to 20 percent or more in the U-235 isotope) or any combination greater than 15 grams when computed by the equation grams = grams uranium-235 + grams plutonium + grams uranium-233 shall meet the physical protection requirements of § 73.67 of 10 CFR Part 73.

44 FR 68184

§ 150.15 Persons not exempt.

(a) Persons in Agreement States are not exempt from the Commission's licensing and regulatory requirements with respect to the following activities:

(1) The construction and operation of any production or utilization facility. As used in this subparagraph (1), "operation" of a facility includes, but is not limited to (i) the storage and handling of radioactive wastes at the facility site by the person licensed to operate the facility, and (ii) the discharge of radioactive effluents from the facility site.

27 FR 1351

(2) The export from or import into the United States of byproduct, source, or special nuclear material, or of any production or utilization facility.

(3) The disposal into the ocean or sea of byproduct, source, or special nuclear waste materials, as defined in regulations or orders of the Commission. For purposes of this part, ocean or sea means any part of the territorial waters of the United States and any part of the international waters.

(next page is 150-3)

(4) The transfer, storage or disposal of radioactive waste material resulting from the separation in a production facility of special nuclear material from irradiated nuclear reactor fuel. This subparagraph (4) does not apply to the transfer, storage, or disposal of contaminated equipment.

(5) The disposal of such other byproduct, source, or special nuclear material as the Commission determines by regulation or order should, because of the hazards or potential hazards thereof, not be so disposed of without a license from the Commission.

27 FR 1351

(6) The transfer of possession or control by the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source material or byproduct material whose subsequent possession, use, transfer, and disposal by all other persons are exempted from licensing and regulatory requirements of the Commission under Parts 30 and 40 of this chapter.

34 FR 6517

(7) The storage of spent fuel in an independent spent fuel storage installation (ISFSI) licensed pursuant to Part 72 of this Chapter.

45 FR 74693

(b) Notwithstanding any exemptions provided in this part, the Commission may from time to time by rule, regulation, or order, require that the manufacturer, processor or producer of any equipment, device, commodity, or other product containing source, byproduct, or special nuclear material shall not transfer possession or control of such product except pursuant to a license or an exemption from licensing issued by the Commission.

34 FR 6517

§ 150.15a Continued Commission authority pertaining to byproduct material.

(a) Prior to the termination of any Agreement State license for byproduct material as defined in § 150.3(c)(2) of this Part, or for any activity that results in the production of such material, the Commission shall have made a determination that all applicable standards and requirements pertaining to such material have been met.

(b) After November 8, 1981, the Commission reserves the authority to establish minimum standards regarding reclamation, long term surveillance (i.e., continued site observation, monitoring and, where necessary, maintenance), and ownership of byproduct material as defined in § 150.3(c)(2) of this Part and of land used as a disposal site for such material. Such reserved authority includes:

(1) Authority to establish such terms and conditions as the Commission determines necessary to assure that, prior to termination of any license for byproduct material as defined in § 150.3(c)(2) of this Part, or for any activity that results in the production of such material, the licensee shall comply with decontamination, decommissioning, and reclamation standards prescribed by the Commission; and with ownership requirements for such materials and its disposal site;

(2) The authority to require that prior to termination of any license for byproduct material as defined in § 150.3(c)(2) of this Part, or for any activity that results in the production of such material, that title to such byproduct material and its disposal site be transferred to the United States or the State in which such material and land is located, at the option of the State (provided such option is exercised prior to termination of the license);

(3) The authority to permit use of the surface or subsurface estates, or both, of the land transferred to the United States or a State pursuant to paragraph (b)(2) of this section in a manner consistent with the provisions of the Uranium Mill Tailings Radiation Control Act of 1978, provided that the Commission determines that such use would not endanger the public health, safety, welfare, or the environment;

(4) The authority to require, in the case of a license for any activity that produces such byproduct material (which license was in effect on November 8, 1981) transfer of land and material pursuant to paragraph (b)(2), of this section, taking into consideration the status of such material and land and interests therein, and the ability of the licensee to transfer title and custody thereof to the United States or a State.

(5) The authority to require the Secretary of the Department of Energy, other Federal agency, or State, whichever has custody of such property and materials, to undertake such monitoring, maintenance and emergency measures as are necessary to protect the public health and safety and other actions at the Commission deems necessary to comply with the standards promulgated pursuant to the Uranium Mill Tailings Radiation Control Act of 1978; and

(6) The authority to enter into arrangements as may be appropriate to assure Federal long term surveillance (i.e., continued site observation, monitoring, and where necessary, maintenance) of such disposal sites on land held in trust by the United States for any Indian tribe or land owned by an Indian tribe and subject to a restriction against alienation imposed by the United States.

45 FR 65521

CONTINUED COMMISSION AUTHORITY IN AGREEMENT STATES

§ 150.16 Submission to Commission of nuclear material transfer reports.

(a) Each person who transfers and each person who receives special nuclear material pursuant to an Agreement State license shall complete and distribute Nuclear Material Transaction Reports on Form NRC–741, in accordance with printed instructions for completing the form, whenever he transfers or receives a quantity of special nuclear material of 1 gram or more of contained uranium-235, uranium-233, or plutonium.

39 FR 39559

Each person who transfers such material shall submit a copy of Form NRC–741 to the U.S.

Department of Energy, , P.O. Box E, Oak Ridge, Tennessee 37830, and three (3) copies to the receiver of the material promptly after the transfer takes place. Each person who receives special nuclear material shall submit a copy of Form NRC–741 to the U.S.

Department of Energy

istration and the the shipper of the material within ten (10) days after the special nuclear material is received.

45FR14199

(b) Each person who, pursuant to an Agreement State License, possesses 1 gram or more of contained uranium-235, uranium-233, or plutonium shall report immediately to the Director of the appropriate Inspection and Enforcement Regional Office, listed in Appendix A of Part 73 of this chapter, by telephone

42 FR 43965

any theft or other unlawful diversion of special nuclear material which he is licensed to possess or any incident in which an attempt has been made, or is believed to have been made, to commit a theft or unlawful diversion of such material.

39 FR 39559

The initial report shall be followed within a period of fifteen (15) days by a written report submitted to the appropriate NRC Regional Office shown in Appendix A of Part 73 of this chapter, which sets forth the details of the incident. Copies of such written report shall be sent to the Director of Inspection and Enforcement, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555.

41 FR 16445

Subsequent to the submission of the written report required by this paragraph, each licensee shall promptly inform the Director of the appropriate Inspection and Enforcement Regional Office by means of a written report of any substantive additional information, which becomes available to such person, concerning an attempted or apparent theft or unlawful diversion of special nuclear material.

39 FR 39559

§ 150.17 Submission to the Commission of source material transfer reports.

(a) Except as specified in paragraph (d) of this section and § 150.17a, each person who, pursuant to an Agreement State specific license, transfers or receives or adjusts the inventory in any manner by 1 kilogram or more of uranium or thorium of foreign origin or who imports 1 kilogram or more of uranium of thorium of any origin shall complete and distribute a Nuclear Material Transaction Report on DOE/NRC Form 741 in accordance with the printed instructions for completing the form (NUREG/BR–0006). Copies of forms and instructions may be obtained by writing to U.S. Nuclear Regulatory Commission, Division of Safeguards, Washington, DC 20555. Each person who transfers the material shall submit a completed copy of DOE/NRC Form 741 to the address specified in the printed instructions and three (3) copies to the receiver of the material no later than the close of business the next working day. Each person who receives the material shall submit a completed copy of DOE/NRC Form 741 to the address specified in the printed instructions and to the shipper of the material within ten (10) days after the material is received.

49 FR 24705

(b) Except as specified in paragraph (d) of this section and § 150.17a, each person who is authorized to possess at any one time and location under an Agreement State license, more than 1,000 kilograms or uranium or thorium, or any combination or uranium or thorium, shall submit to the Commission within 30 days after September 30 of each year, a statement of the licensee's source material inventory. These reports must be submitted to the address specified in the printed instructions (NUREG/BR–0007), and include the Reporting Identification Symbol (RIS) assigned by the Commission to the licensee. Copies of the reporting instructions may be obtained by writing to U.S. Nuclear Regulatory Commission, Division of Safeguards, Washington, DC 20555.

49 FR 24705

(c) Except as specified in paragraph (d) of this section, each person who is authorized to possess uranium or thorium pursuant to a specific license from an Agreement State shall report promptly to the appropriate NRC Regional Office shown in Appendix D of Part 20 of this chapter by telephone and telegraph, mailgram, or facsimile any incident in which an attempt has been made or is believed to have been made to commit a theft or unlawful diversion of more than 15 pounds of such material at any one time or more than 150 pounds of such material in any one calendar year. The initial report shall be followed within a period of fifteen (15) days by a written report submitted to the appropriate NRC Regional Office which sets forth the details of the incident and its consequences. Copies of such written report shall be sent to the Director of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Subsequent to the submission of the written report required by this paragraph, each person subject to the provisions of this paragraph, shall promptly inform the appropriate NRC Regional Office by means of a written report of any substantive additional information, which becomes available to such person, concerning an attempted or apparent theft or unlawful diversion of source material.

41 FR 16445

(d) The reports described in paragraphs (a), (b), and (c) of this section are not required for:

(1) Processed ores containing less than five (5) percent of uranium or thorium, or any combination of uranium and thorium, by dry weight;

(2) Thorium contained in magnesium-thorium and tungsten-thorium alloys, if the thorium content in the alloys does not exceed 4 percent by weight;

(3) Chemical catalysts containing uranium depleted in the U-235 isotope to 0.4 percent or less, if the uranium content of the catalyst does not exceed 15 percent by weight; or

(4) Any source material contained in non-nuclear end use devices or components, including but not limited to permanently installed shielding, teletherapy, radiography, X-ray, accelerator devices, or munitions.

49 FR 24705

§ 150.17a Compliance with requirements of US/IAEA safeguards agreement.

(a) For purposes of this section, the terms "effective kilogram", "ore processing", "installation", and "United States eligible list" have the meaning set forth in § 75.4 of this chapter.

(b) Each person who, pursuant to an Agreement State License, is authorized to possess source material in amounts greater than one effective kilogram (except in ore processing) is subject to the provisions of Part 75 of this chapter and shall comply with its applicable provisions. However, with respect to such persons, the Commission will issue orders under section 274m. of the Act instead of making license amendments; and, to the extent Part 75 refers to license amendments and license conditions, such references shall be deemed, for purposes of this paragraph, to refer to orders under section 274m. of the Act.

45 FR 50705

(c) An applicant for an Agreement State License authorizing possession of source material in amounts greater than one effective kilogram (except in ore processing) shall notify the Commission at least 9 months prior to the date when the applicant desires to receive the source material.

(d) In response to a written request by the Commission, an applicant for an Agreement State License authorizing possession of source material in amounts greater than one effective kilogram (except in ore processing) shall file with the Commission the installation information described in § 75.11 of this chapter. The applicant shall also permit verification of such installation information by the International Atomic Energy Agency and take such other action as may be necessary to implement the US/IAEA Safeguards Agreement, in the manner set forth in § 75.6 and §§ 75.11 through 75.14 of this chapter.

47 FR 8

150.19 Submission to Commission of tritium reports.

(a) (Reserved)

(b) [reserved]

(c) Except as specified in paragraph (d) of this section, each person who, pursuant to an Agreement State license, is authorized to possess tritium shall report promptly to the appropriate NRC Regional Office as shown in Appendix D of Part 20 of this chapter by telephone and telegraph, mailgram, or facsimile any incident in which an attempt has been made or is believed to have been made to commit a theft or unlawful diversion of more than 10 curies of such material at any one time or 100 curies of such material in any one calendar year. The initial report shall be followed within a period of fifteen (15) days by a written report submitted to the appropriate NRC Regional Office which sets forth the details of the incident and its consequences. Copies of such written report shall be sent to the Director of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Subsequent to the submission of the written report required by this paragraph, each person subject to the provisions of this paragraph shall promptly inform the appropriate NRC Regional Office by means of a written report of any substantive additional information, which becomes available to such person, concerning an attempted or apparent theft or unlawful diversion of tritium.

(d) The reports described in this section are not required for tritium possessed pursuant to a general license issued pursuant to regulations of an Agreement State equivalent to Part 31 of this chapter or for tritium in spent fuel.

RECIPROCITY

§ 150.20 Recognition of Agreement State licenses.

(a) Subject to the provisions of paragraph (b) of this section, any person holding a specific license from an Agreement State where the licensee maintains an office for directing the licensed activity, and at which radiation safety records are normally maintained, is hereby granted a general license to conduct the same activity in non-Agreement States and a general license to conduct the same activity in offshore waters: *Provided*, That the specific license does not limit the activity authorized by either general license to specified installations or locations.

(b) Notwithstanding any provision to the contrary in any specific license issued by an Agreement State to a person engaging in activities in a non-Agreement State or in offshore waters under the general licenses provided in this section, the general licenses provided in this section are subject to the provisions of §§ 30.7 (a) through (e), 30.14(d) and §§ 30.34, 30.41, and 30.51 to 30.63, inclusive, of Part 30 of this chapter; § 40.7 (a) through (e) and §§ 40.41, 40.51, 40.61, 40.63, inclusive, 40.71 and 40.81 of Part 40 of this chapter; and § 70.7 (a) through (e) and §§ 70.32, 70.42, 70.51 to 70.56, inclusive, 70.60 to 70.62, inclusive, and 70.71 of Part 70 of this chapter; and to the provisions of Parts 19, 20, and 71 and Subpart B of Part 34 of this chapter. In addition, any person engaging in activities in non-Agreement States or in offshore waters under the general licenses provided in this section:

(1) Except as specified in paragraph (c) of this section, shall, at least 3 days before engaging in each such activity, file 4 copies of Form NRC-241 (revised), "Report of Proposed Activities in Non-Agreement States," and 4 copies of its Agreement State specific license with the Director of the Nuclear Regulatory Commission Inspection and Enforcement Regional Office listed in Appendix D of Part 20 of this chapter for the region in which the Agreement State that issued the license is located. That Director may authorize the licensee to begin the activity upon notification by telephone of the licensee's intent to conduct the proposed activity under the general license:

Provided, however, That four copies of Form NRC-241 (revised) and four copies of the Agreement State license shall be filed within 3 days after the telephone notification. The Director of the Nuclear Regulatory Commission Inspection and Enforcement Regional Office may waive the requirement for filing additional Forms NRC-241 (revised) during the remainder of the calendar year following the receipt of the initial Form NRC-241 (revised) from a person engaging in activities under the general license provided in this section;

(2) Shall not, in any non-Agreement State or in offshore waters, transfer or dispose of radioactive material possessed or used under the general licenses provided in this section, *except* by transfer to a person (i) specifically licensed by the Commission to receive such material, or (ii) exempt from the requirements for a license for such material under § 30.14 of this chapter;

(3) Shall not, under the general license concerning activities in Non-Agreement States, possess or use radioactive materials, or engage in the activities authorized in paragraph (a) of this section, for more than 180 days in any calendar year, *except* that, the general license in paragraph (a) of this section concerning activities in offshore waters authorizes that person to possess or use radioactive materials, or engage in the activities authorized, for an unlimited period of time;

(4) Shall comply with all terms and conditions of the specific license issued by an Agreement State except such terms or conditions as are contrary to the requirements of this section.

(c) A person engaging in activities in offshore waters under the general license provided for that purpose in paragraph (a) of this section need not file a Form NRC-241 (revised) with the Commission under paragraph (b)(1) of this section, *Provided*, That:

(1) At least 3 days before engaging in each such activity the person notifies the Agreement State that issued the specific license about the activity, including in the notification (i) a description of the activity, (ii) the location, (iii) the dates scheduled, (iv) a list of the sealed sources, or devices containing sealed sources, which will be possessed, used, installed, serviced, or tested, and (v) a description of the type and quantity of radioactive material contained in each sealed source or device; and (2) The Agreement State that issued the specific license is listed in paragraph (d) of this section as having entered into an agreement to perform inspections and other functions for the Commission.

(d) The following Agreement State has entered into an agreement to perform inspections and other functions for the Commission: Louisiana.

46 FR 44149

§ 150.21 Transportation of special nuclear material by aircraft.

Except as specifically approved by the Commission no shipment of special nuclear material in excess of 20 grams or 20 curies whichever is less of plutonium or uranium-233 shall be made by a licensee of an Agreement State in passenger aircraft.

38 FR 3039

ENFORCEMENT

§ 150.30 Violations.

An injunction or other court order may be obtained prohibiting any violation of any provision of the Act or any regulation or order issued thereunder. A court order may be obtained for the payment of a civil penalty imposed pursuant to section 234 of the Act for violation of section 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Act or any rule, regulation, or order issued thereunder, or any term, condition, or limitation of any license issued thereunder, or for any violation for which a license may be revoked under section 186 of the Act. Any person who willfully violates any provision of the Act or any regulation or order issued thereunder may be guilty of a crime and upon conviction, may be punished by fine or imprisonment or both, as provided by law.

36 FR 16894

§ 150.31 Requirements for Agreement State regulation of byproduct material.

(a) Prior to November 8, 1981, in the licensing and regulation of byproduct material, as defined in § 150.3(c)(2) of this Part, or of any activity which results in the production of such byproduct material, an Agreement State shall require compliance with the requirements in Appendix A of 10 CFR 40 of this Chapter to the maximum extent practicable.

(b) After November 8, 1981, in the licensing and regulation of byproduct material, as defined in § 150.3(c)(2) of this Part, or of any activity which results in the production of such byproduct material, an Agreement State shall require:

(1) Compliance with requirements in Appendix A of 10 CFR 40 of this Chapter established by the Commission pertaining to ownership of such byproduct material and disposal sites for such material; and

(2) Compliance with standards which shall be adopted by the Agreement State for the protection of the public health, safety, and the environment from hazards associated with such material which are equivalent, to the extent practicable, or more stringent than, standards in Appendix A of 10 CFR 40 of this Chapter adopted and enforced by the Commission for the same purposes, including requirements and standards subsequently promulgated by the Commission and the Administrator of the Environmental Protection Agency pursuant to the Uranium Mill Tailing Radiation Control Act of 1978; and

(3) Compliance with procedures which:

(i) In the case of licenses, under State law include:

(A) An opportunity, after public notice, for written comments and a public hearing, with a transcript;

(B) An opportunity for cross examination; and

(C) A written determination by the appropriate State official which is based upon findings included in such determination and upon the evidence presented during the public comment period and which is subject to judicial review;

(ii) In the case of rulemaking, provide an opportunity for public participation through written comments or a public hearing and provide for judicial review of the rule;

(iii) Require for each licensing action which has a significant impact on the human environment a written analysis by the appropriate State agency (which shall be available to the public before the commencement of any such proceedings) of the impact of such licensing action, including any activities conducted pursuant thereto, on the environment. Such analysis shall include:

(A) An assessment of the radiological and nonradiological impacts to the public health of the activities to be conducted pursuant to such licenses;

(B) An assessment of any impact on any waterway and groundwater resulting from such activities;

(C) Consideration of alternatives, including alternative sites and engineering methods, to the activities to be conducted pursuant to such license; and

(D) Consideration of the long term impacts, including decommissioning, decontamination, and reclamation impacts associated with activities to be conducted pursuant to such license, including the management of any byproduct material, as defined in § 150.3(c)(2) of this Part; and

(iv) Prohibit any major construction activity with respect to such material prior to complying with the provisions of paragraph (c)(3) of this section. As used in this paragraph the term "major construction activity" means any clearing of land, excavation, or other substantial action that would adversely affect the environment of a site. The term does not mean site exploration, necessary roads for site exploration, borings to determine foundation conditions, or other preconstruction monitoring or testing to establish background information related to the suitability of the site or the protection of environmental values.

(c) No Agreement State shall be required under paragraph (b) to conduct proceedings concerning any license or regulation which would duplicate proceedings conducted by the Commission.

45 FR 65521

§ 150.32 Funds for reclamation or maintenance of byproduct material.

(a) The total amount of funds an Agreement State collects, pursuant to a license for byproduct material as defined in § 150.3(c)(2) of this Part or for any activity that results in the production of such material, for reclamation or long term maintenance and monitoring of such material, shall after November 8, 1981, be transferred to the United States if title and custody of such material and its disposal site is transferred to the United States upon termination of such license. Such funds include, but are not limited to, sums collected for long term surveillance (i.e., continued site observation, monitoring and, where necessary, maintenance). Such funds do not however, include monies held as surety where no default has occurred and the reclamation or other bonded activity has been performed. 45 FR 65521

(b) If an Agreement State requires such payments for reclamation or long term surveillance (i.e., continued site observation, monitoring and, where necessary, maintenance), the payments must, after November 8, 1981, be sufficient to ensure compliance with those standards established by the Commission pertaining to bonds, sureties, and financial arrangements to ensure adequate reclamation and long term management of such byproduct material and its disposal site.

[Note removed 49 FR 19623]

PART 150

EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES AND IN OFFSHORE WATERS UNDER SECTION 274 *

PROPOSED RULE MAKING

45 FR 70874
Published 10/27/80
Comment period expires 12/11/80

Exemption of Technetium-99 and
Low-Enriched Uranium as Residual
Contamination in Smelted Alloys

See Part 30 Statements of Consideration

48 FR 20723
Published 5/9/83
Effective 5/9/83

Transuranic Waste Disposal;
Withdrawal of Proposed Rule

See Part 20 Proposed Rule Making

50 FR 13797
Published 4/8/85
Comment period expires 7/8/85

Licenses and Radiation Safety
Requirements for Well-Logging
Operations

See Part 39 Proposed Rule Making

➢**50 FR 19695**
Published 5/10/85
Comment period expires 7/9/85

Material Balance Reports

See Part 40 Proposed Rule Making

UNITED STATES NUCLEAR REGULATORY COMMISSION
RULES and REGULATIONS
TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

PART 150
EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES UNDER SECTION 274

STATEMENTS OF CONSIDERATION

27 FR 1351
Published 2/14/62
Effective 2/14/62

Public Law 86–373, dated September 23, 1959, amended the Atomic Energy Act of 1954 by the addition of a new section 274, "Cooperation With States." One purpose of that legislation was to recognize the interests of the States in the peaceful uses of atomic energy and to clarify the respective responsibilities under the Atomic Energy Act of the Commission and the States with respect to the regulation of byproduct, source, and special nuclear materials.

Under section 274b. of the Atomic Energy Act, the Commission is authorized to enter into an agreement with the Governor of any State providing for discontinuance of the regulatory authority of the Commission under Chapters 6, 7, and 8, and section 161 of the Act with respect to the following materials within the State: Byproduct materials, source materials, and special nuclear materials in quantities not sufficient to form a critical mass.

Subsection (c) of section 274 of the Atomic Energy Act specifically excludes from such agreements the discontinuance of any Commission authority with respect to:

1. The construction and operation of any production or utilization facility;
2. The export from or import into the United States of any byproduct, source, or special nuclear material or of any production or utilization facility;
3. The disposal into the ocean or sea of byproduct, source, or special nuclear waste materials as defined in regulations or orders of the Commission;
4. The disposal of such other byproduct, source, or special nuclear material as the Commission determines by regulation or order should, because of the hazards or potential hazards thereof, not be so disposed of without a license from the Commission.

In addition to the foregoing the Commission, notwithstanding any agreement between the Commission and any State pursuant to subsection 274b. of the Act, is authorized by rule, regulation, or order to require that the manufacturer, processor or producer of any equipment, device, commodity or other product containing source, byproduct or special nuclear material shall not transfer possession or control of such product except pursuant to a license issued by the Commission.

On September 29, 1961, the Commission published for public comment a draft of a proposed 10 CFR Part 150, which would relinquish certain licensing authority to agreement States and exempt persons in those States from Commission licensing requirements. The Statement of Considerations published with the proposed Part 150 stated that the Commission had not taken a position as to whether it should retain or relinquish to the States its authority to regulate the commercial disposal by burial of atomic wastes, or its authority to license the distribution by producers of products containing atomic energy materials; and specifically invited public comment on those questions and on possible alternatives.

Following publication, comments were received from some fifty organizations and individuals. The proposed Part 150 was discussed with a number of committees representing national organizations, as well as with the Commission's Advisory Committee of State Officials. The majority of all comments received were concerned in the main with the question of whether the Commission should continue control in agreement States of the commercial land burial of byproduct, source, or special nuclear wastes and the question of whether the Commission should continue control of transfer by manufacturers, processors or producers of equipment, devices, commodities, or other products containing agreement materials.

The Commission has taken into consideration the comments and advice it has received in adopting the regulation set out herein. The Commission has decided against blanket reservations of control over land burial of waste and over the transfer of manufactured products.

However, as to land burial, the Commission finds, pursuant to section 274 c.(4), of the Act that because of the hazards or potential hazards thereof, high level atomic energy wastes from the chemical processing of irradiated fuel elements should not be disposed of without a license from the Commission. This finding is reflected in § 150.15(a)(4). Control over the handling and storage of waste at the site of a reactor, including effluent discharge, will be retained by the Commission as a part of the control of reactor operation. The states will have control over land burial of low level wastes.

With respect to whether the Commission should retain or relinquish authority to license the transfer by manufacturers, processors or producers of equipment, devices, commodities or other products containing atomic energy materials, Part 150 provides for State regulatory control in this area except those items intended for use by the general public (§ 150.15(a)(6)). Thus, control over the manufacture and transfer of industrial type devices, such as thickness gauges, would be exercised by the agreement States.

Control over consumer type devices, such as luminous watches, would be retained by the Commission. The uncontrolled distribution of atomic materials in products designed for distribution to the general public, such as consumer type devices, and the ultimate uncontrolled release of these materials into the environment, involve questions of national policy which have not yet been resolved. It is for this reason that the Commission is retaining control over such products. The Commission recognizes that the phrase "products designed for distribution to the general public" is not precise. The purpose of the provision, however, will be discussed with each agreement State; serious difficulties in interpretation of the phrase are not anticipated.

In order to achieve the maximum degree of uniformity of design and labeling requirements for those products and devices which will be under State control, the agreement to be executed between the Commission and an agreement State will provide for cooperative arrangements under which the State will keep the Commission informed of proposed requirements for the design and distribution of such products. In addition, the State will agree to use its best efforts to maintain its total control program compatible with the control program of the Commission on a continuing basis.

The agreement will also provide that the Commission and the agreement State will use their best efforts to develop rules, regulations and procedures by which reciprocal recognition of licenses covering agreement materials will be accorded.

In the implementation of the reciprocal recognition provision in the agreement, § 150.20 grants a general license to any person who holds a valid specific license from an agreement State to conduct the same activity in a non-agreement State, provided that the specific license does not limit the activity authorized by the license to specific installations or locations. The general license so provided in § 150.20 requires the licensee to comply with the appropriate provisions of Parts 20, 30, 31, 40, and 70 of Title 10. In addition, such licensee must register in advance with the Commission; must not in any non-agreement State, transfer or dispose of the radioactive material possessed or used under the general license except by transfer to a person specifically licensed by the Commission to receive such material; must not in any non-agreement State, possess or use radioactive material, or engage in the activity authorized in § 150.20 for more than 20 days in any period of 12 consecutive months, without obtaining a specific license from the Commission, and must comply with all terms and conditions of the specific State license except those terms and conditions as are contrary to the requirements of § 150.20.

There are certain classes of devices containing byproduct material which may be used under general licensing provisions contained in Part 30, § 30.21(c), if the device is manufactured in accordance with a specific license issued to the manufacturer by the Commission. Part 30 is being amended to provide that such products, if manufactured in an agreement State pursuant to a specific license from the agreement State, may be transferred to users in non-agreement States and used by the users under the general licensing provisions of Part 30.

The Commission's decision not to exercise its authority to license the transfer of products containing atomic energy materials (other than products designed for distribution to the general public) is based on the assumption that agreement States will maintain continuing compatibility between their programs and Commission programs; and that procedures will be devised assuring reasonable, reciprocal recognition of licenses and licensing requirements among such States and the Commission. If attainment of these objectives should prove to be unfeasible, the Commission will reconsider the need for the exercise of its authority to prescribe the specifications for products containing atomic energy materials.

It will be desirable for the Commission and agreement States to develop programs for the collection and exchange of data concerning the effectiveness of standards and procedures observed in their respective programs for licensing and regulating the possession and use of atomic energy materials. For this purpose, the Commission plans, in cooperation with the agreement States, to develop procedures under which the agreement States will furnish to the Commission such information as may be agreed upon from time to time; and the Commission will make available to each agreement State, summaries of the information received from other agreement States and from Commission licensees.

As has previously been announced, the Commission is conducting studies of activities involving the processing and use of very substantial quantities of byproduct material (in the order of hundreds of thousands of curies). These studies have been undertaken in part to provide information on which the Commission may make a determination as to whether provisions of the Price-Anderson Indemnity Act (section 170 of the Atomic Energy Act of 1954) should be extended to such activities. They have also been undertaken for the purpose of providing information as to whether the Commission should determine that facilities which process such quantities of byproduct material are production or utilization facilities within the meaning of Section 11 of the Act. If the Commission finds that such facilities should be classified as utilization facilities, the Commission's licensing and regulatory requirements would be applicable: The provisions of the Price-Anderson Indemnity Act cannot be made applicable except to activities licensed by the Commission.

The exemptions herein granted are issued in order to carry out agreements between the Commission and the Governor of any State under section 274b. of the Atomic Energy Act of 1954, as amended.

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following regulation is published as a document subject to codification, to be effective on publication in the FEDERAL REGISTER.

30 FR 12069
Published 9/22/65
Effective 10/22/65

Computation of Quantities of Special Nuclear Material in Agreement States for Purposes of Exemption

1. On June 5, 1965, the Commission published a proposed amendment to 10 CFR Part 150 which would revise the basis for computation of whether a quantity of special nuclear material within an agreement State[1] is sufficient to form a critical mass, allowing thirty days for public comment. (30 F.R. 7445) After consideration of the comments received in response to the notice of proposed rule making, and other factors involved, the Commission has decided to adopt the proposed amendment in the form published in the notice, as an effective rule.

2. Subsection 274b. of the Atomic Energy Act of 1954, as amended, authorizes the Commission to enter into agreements with individual States for the discontinuance of Commission regulatory authority under the Act, with respect to certain atomic energy materials. Among those materials are special nuclear materials in quantities not sufficient to form a critical mass.

3. The Commission has, thus far, entered into agreements with eleven States pursuant to subsection 274b. It has also promulgated a regulation, 10 CFR Part 150, to carry out such agreements.

4. Section 150.10 of Part 150 exempts persons in agreement States who manufacture, produce, receive, possess, use or transfer special nuclear material in quantities not sufficient to form a critical mass from the requirements for a license contained in the Act and from the Commission's licensing regulations. Paragraph (a) of § 150.11 sets out the quantities of special nuclear materials which are deemed to be not sufficient to form a critical mass. Paragraph (b) of that section provides, in effect, that in determining whether the exemption applies, the total quantity of special nuclear material which a person is authorized to receive, possess or use anywhere in a particular agreement State at any one time shall be included in the quantity computed under paragraph (a).

5. The amendment to § 150.11(b) set forth below provides that in determining whether the exemption of § 150.10 applies at any particular plant or other authorized location of use, only the material which the person is authorized to receive, possess or use at that plant or location at any one time need be included in the computation. Even though the total quantity of special nuclear material which a person is authorized to possess or use within an agreement State may be sufficient to from a critical mass, no problems of accidental criticality are presented so long as the quantity of material possessed and used at any separate location at any one time is insufficient to form a critical mass.

6. Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act of 1946, the following amendment to 10 CFR Part 150 is published as a document subject to codification to be effective thirty days after publication in the FEDERAL REGISTER.

31 FR 15145
Published 12/2/66
Effective 12/2/66

Miscellaneous Amendments to Chapter

See Part 9 Statements of Consideration.

34 FR 6517
Published 4/16/69
Effective 5/16/69

Transfer of Products Containing Byproduct Material and Source Material Exempted From Licensing and Regulatory Requirements

On February 24, 1968, the Atomic Energy Commission published in the FEDERAL REGISTER (33 F.R. 3346) a proposed amendment to 10 CFR Part 150 which would redefine the category of products containing radioactive materials over whose transfer by the manufacturer, processor, or producer in an Agreement State the Commission retains jurisdiction. The notice of proposed rule making was published in the FEDERAL REGISTER once each week for four consecutive weeks, allowing 60 days for public comment after initial publication.

After consideration of the comments and other factors involved, the Commission has adopted the proposed amendment. The text of the effective rule is the same as the proposed rule except for clarifying changes of language.

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[1] A State to which the Commission has transferred certain regulatory authority over radioactive material by formal agreement, pursuant to section 274 of the Atomic Energy Act of 1954, as amended.

Subsection 274c of the Atomic Energy Act of 1954, as amended, provides that notwithstanding any agreement between the Atomic Energy Commission and any State, the Commission is authorized to require that the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source, byproduct, or special nuclear material shall not transfer possession or control of such product except pursuant to a license issued by the Commission.

In issuing 10 CFR Part 150, which implemented certain provisions of section 274 of the Act, in 1962, the Commission exercised its authority under subsection 274c of the Act by providing (§ 150.15(a)(6)) that persons in Agreement States are not exempt from the Commission's licensing requirements with respect to * * *

> (6) The transfer of possession or control by the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source, byproduct, or special nuclear material, intended for use by the general public.

In retaining regulatory authority over transfer of products "intended for use by the general public", the Commission was seeking to maintain surveillance over the safety of products containing radioactive materials, without the imposition of regulatory controls, and to be able to assess the effect of the attendant uncontrolled addition of these radioactive materials to the environment.

In view of the increasing difficulty in determining whether or not such products are intended for use by the general public, the Commission has adopted the amendment of Part 150 set out below, which changes § 150.15(a)(6) by deleting the phrase "product * * * intended for use by the general public" and substituting therefor the phrase "product * * * whose subsequent possession, use, transfer and disposal by all other persons are exempted from licensing and regulatory requirements of the Commission under Parts 30 and 40 of this chapter."

Under Part 150 as amended below the transfer of possession or control by a manufacturer, processor, or producer of any equipment, device, commodity, or other product containing byproduct material or source material whose subsequent possession, use, transfer, and disposal by all other persons are exempted from Commission licensing and regulatory requirements under Parts 30 and 40, is not subject to the licensing and regulatory authority of an Agreement State even though the product is manufactured, processed, or produced pursuant to an Agreement State license. The manufacturer of such products in an Agreement State is subject to the Commission's regulatory authority with respect to transfer of any product which has been so exempted from the Commission's licensing and regulatory requirements. The Commission has confined its regulation of the transfer of exempt products to specifications for the products, quality control procedures, requirements for testing, and labeling. The authority of Agreement States to regulate any radiation hazards that might arise during manufacture of such products is not affected by the amendment. Accordingly, dual regulation will continue to be avoided.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendment to Title 10, Chapter I, Code of Federal Regulations, Part 150, is published as a document subject to codification effective thirty (30) days after publication in the FEDERAL REGISTER.

35 FR 7640
Published 5/16/70
Effective 6/15/70

Material Status Reports and Nuclear Material Transfer Reports

See Part 70 Statements of Consideration.

35 FR 7725
Published 5/20/70
Effective 6/19/70

Recognition of Agreement State Licenses

On December 20, 1969, the Atomic Energy Commission published in the FEDERAL REGISTER (34 F.R. 19996) a proposed amendment to its regulation 10 CFR Part 150, "Exemptions and Continued Regulatory Authority in Agreement States Under Section 274," which would (a) increase the time during which persons holding specific licenses from Agreement States may engage in activities in non-Agreement States under the general license in § 150.20 from 20 days in any period of 12 consecutive months to 180 days in any calendar year; (b) limit the application of the general license to a person holding a specific license issued by the State where the licensee maintains an office for directing the licensed activity and at which radiation safety records are normally maintained; and (c) modify the requirements for notifying the Commission of proposed activities to be conducted in non-Agreement States under the general license.

All interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendment within 60 days after publication of the notice of proposed rule making in the FEDERAL REGISTER. No adverse comments were received. The Commission has adopted the proposed amendments. The text of the amendment set out below is identical with the text of the proposed amendment published December 20, 1969.

The amendment increases the time that persons holding specific licenses from Agreement States are permitted to engage in activities in non-Agreement States under the general license from 20 days in any period of 12 consecutive months to 180 days in any calendar year. This increase in time will encourage the use of the general license by Agreement States specific licensees who are engaged in transient field operations.

The amendment limits use of the general license to the specific licensee whose license was issued by the Agreement State where the licensee maintains an office for directing the licensed activity and at which radiation safety records are normally maintained. This State will be in the best position to evaluate the licensed activities and to require and enforce any corrective measures which might be desirable or necessary in the interest of public health and safety.

Agreement State specific licensees will be required to file Form AEC-241, "Report of Proposed Activities in Non-Agreement States," at least 3 days prior to engaging in any activities in non-Agreement States under § 150.20. The Director of the Commission's appropriate Regional Compliance Office is authorized to permit commencement of the activity without the 3-day period notice upon receipt of telephone notification. Also, he is authorized to waive the requirement for filing additional reports during the remainder of the calendar year, following the receipt of the initial report.

The Commission expects that the amendment of the general license in § 150.20 will permit a greater number of Agreement State specific licensees to use the general license, reduce the need for multiple specific licenses, and reduce the number of reports required of persons proposing to engage in activities under the general license. The amendment will simplify licensing of radioactive materials without compromising health and safety.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendment to Title 10, Chapter I, Code of Federal Regulations, Part 150, is published as a document subject to codification effective thirty (30) days after publication in the FEDERAL REGISTER.

35 FR 12195
Published 7/30/70
Effective 8/29/70

Source Material Reports

See Part 40 Statements of Consideration.

36 FR 10938
Published 6/5/71
Effective 7/5/71

Safeguards Reporting Requirements for Source Material

See Part 40 Statements of Consideration.

37 FR 9207
Published 5/6/72
Effective 6/5/72

Reporting and Control Requirements for Tritium

See Part 30 Statements of Consideration.

38 FR 2330
Published 1/24/73
Effective 1/24/73

Miscellaneous Amendment

See Part 2 Statements of Consideration.

38 FR 3039
Published 2/1/73
Effective 2/1/73

Aircraft Transportation of Special Nuclear Material

The Atomic Energy Commission has adopted amendments to its regulations in 10 CFR Part 73, "Physical Protection of Special Nuclear Material," which, in the interest of the common defense and security, strengthen existing requirements for physical protection of special nuclear material (SNM) while in transit. The quantities of SNM that may be carried aboard passenger carrying aircraft are limited to 20 grams or 20 curies, whichever is less of plutonium or uranium-233 or 350 grams of uranium-235 (contained in uranium enriched to 20 percent or more in the U-235 isotope). The limitations on plutonium and uranium-233 are consistent with international air transport regulations governing shipments of these materials aboard passenger aircraft. They also are consistent with export license conditions which have been imposed by the Director of Regulation since February 1969, limiting shipments of special nuclear materials on international flights. Accordingly, Part 150 is being amended to impose similar restrictions on licensees of Agreement States.

In the interest of the common defense and security, the Commission has found that general notice of proposed rule making and public procedure thereon are contrary to the public interest and good cause exists for making the amendments effective without the customary 30-day notice. Pursuant to the Atomic Act of 1954, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendment of Title 10, Chapter I, Code of Federal Regulations, Part 150 is published as a document subject to codification to be effective on February 1, 1973.

39 FR 39559
Published 11/8/74
Effective 11/8/74

PART 70—SPECIAL NUCLEAR MATERIAL

PART 150—EXEMPTIONS AND CONTINUED REGULATORY AUTHORITY IN AGREEMENT STATES UNDER SECTION 274

Reporting of Theft or Attempted Theft of Special Nuclear Material

On February 8, 1974, the Atomic Energy Commission published in the FEDERAL REGISTER (39 FR 4930) proposed amendments to its regulations in 10 CFR Part 70, "Special Nuclear Material," and 10 CFR Part 150, "Exemptions and Continued Regulatory Authority in Agreement States Under Section 274," which would require reporting of theft or attempted theft of special nuclear material in the interest of the common defense and security.

Interested parties were invited to submit comments and suggestions for consideration pertaining to the proposed amendments by March 25, 1974. Upon consideration of the comments received, and other factors involved, the Commission has adopted the proposed amendments with minor editorial and clarifying changes.

These reporting requirements are being promulgated as part of an overall AEC effort to strengthen the protection of strategically important special nuclear material.

In the interest of the common defense and security, the Commission has found that good cause exists for making the amendments effective upon publication in the FEDERAL REGISTER without the customary 30-day notice.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments of 10 CFR Parts 70 and 150 are published as a document subject to codification.

40 FR 8774
Published 3/3/75
Effective 3/3/75

Energy Reorganization Act: Revisions to Chapter I to Reflect Organizational and Procedural Changes

See Part 2 Statements of Consideration.

41 FR 16445
Published 4/19/76
Effective 4/19/76

Miscellaneous Changes to Chapter

See Part 20 Statements of Consideration.

42 FR 33265
Published 6/30/77
Effective 6/30/77

Certain Reporting Dates Changed

See Part 30 Statements of Consideration.

42 FR 43965
Published 9/1/77
Effective 9/1/77

Amendments to Chapter to Revoke or Revise Certain Reporting Requirements

See Part 20 Statements of Consideration.

44 FR 50012
Published 8/24/79
Effective 8/24/79
Comment Period expires 10/24/79

Uranium Mill Tailings Licensing

See Part 40 Statements of Consideration.

44 FR 68184
Published 11/28/79
Effective 3/25/80

Physical Protection Upgrade Rule

See Part 73 Statements of Considerations.

45FR14199
Published 3/5/80
Effective 3/5/80

Minor and Clarifying Amendments

See Part 1 Statements of Consideration

45 FR 18905
Published 3/24/80
Effective 3/24/80

Deletion of reference to Panama Canal Zone; Minor Amendments

See Part 4 Statements of Consideration.

45 FR 50705
Published 7/31/80
Effective 7/31/80
Effective Date 12 /24/80 *

Safeguards on Nuclear Material-Implementation of US/IAEA Agreement

See Part 75 Statements of Consideration.

45 FR 65521
Published 10/3/80
Effective 11/17/80

Uranium Mill Licensing Requirements

See Part 30 Statements of Consideration

45 FR 74693
Published 11/12/80
Effective 11/28/80

Licensing Requirements for the Storage of Spent Fuel in an Independent Fuel Spent Storage Installation

See Part 72 Statements of Consideration

46 FR 44149
Published 9/3/81
Effective 10/5/81

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*Amended 45 FR 84967

10 CFR Parts 31 and 150

NRC's Jurisdiction Over Persons Using Byproduct, Source or Special Nuclear Materials in Certain Offshore Waters

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) is amending its regulations (1) to clarify that it has jurisdiction vis-a-vis Agreement States over persons using byproduct, source, or special nuclear materials in certain offshore waters bounded by the U.S. Outer Continental Shelf, (2) to recognize Agreement State specific licenses in an NRC general license covering activities in these waters, and (3) to allow Agreement States to perform inspections and other functions for NRC in these waters.

EFFECTIVE DATE: October 5, 1981.

FOR FURTHER INFORMATION CONTACT: Thomas F. Dorian, Esq., Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Telephone: 301–492–8690).

SUPPLEMENTARY INFORMATION:

The Problem

Several incidents in the Gulf of Mexico involving actual or potential overexposures to radiographers have disclosed to the Commission the need to clarify its jurisdiction vis-a-vis that of coastal Agreement States [1] over offshore radiographic, well-logging, and other operations using byproduct, source, or special nuclear materials. Licensing, regulatory, and enforcement problems have arisen because it has been unclear whether a person with a specific license from an Agreement State or from NRC, operating in offshore waters, namely, in the area, beyond a coastal Agreement State's Submerged Lands Act jurisdiction (see 43 U.S.C. 1301, *et seq.*) (that is, outside State boundaries which normally extend three miles or three marine leagues from the coastline), but on or above the Outer Continental Shelf, should be licensed and regulated by the Agreement State or by the Commission.

The Comments

On October 30, 1980, NRC published a proposed rule, in the Federal Register (45 FR 71807) addressing the issue of jurisdiction including several concerns raised by Louisiana and Texas with respect to this issue. During the comment period, the Department of Justice was the sole commenter on the proposed rule,[2] agreeing with the proposal and suggesting several word changes to clarify the concept of "offshore waters." In essence, the Department suggested that "offshore waters" should be defined as those waters beyond Agreement States' "Submerged Lands Act jurisdiction and above the U.S. Outer Continental Shelf," rather than, as defined in the proposed rule, those waters beyond Agreement States' "territorial waters and within the area of the U.S. Outer Continental Shelf."

The Submerged Lands Act (Pub. L. 31, 43 U.S.C. 1301, *et seq.*) was promulgated in order to extend Federal jurisdiction and control to the submerged lands off the U.S. Outer Continental Shelf. It deals, in pertinent part, with the rights and claims of the States to the seabed and its resources beyond historic State boundaries. See House Report No. 215, accompanying H.R. 4198, in 1953 *U.S. Code Cong. and Admin. News,* at 1385.

The Commission has accepted the changes suggested by the Department of Justice, with some additional minor modifications discussed with it. The modifications make clear that "offshore waters" include both the land and water areas, beyond Agreement States' Submerged Lands Act jurisdiction, on or above the U.S., Outer Continental Shelf.

Shortly after the comment period ended, Louisiana and an independent consultant notified the Commission [3] that, though they agreed with the principal substantive provisions of the proposed rule (that is, that NRC has the requisite jurisdiction over persons in the defined offshore waters), nonetheless, they and many licensees were concerned about two minor procedural requirements the proposed rule would have imposed upon licensees. The Commission learned that Texas was similarly concerned. Both requirements have now been changed, as discussed later. One would have required Agreement State licensees (working in the offshore area under the proposed NRC general license) to file NRC–241 forms to allow the Commission to track their activities in order to make inspections. The other would have required them to apply for specific licenses after 180 days (measured cumulatively over a calendar year) of operating under the general license.

Examination of the Jurisdictional Issue

Three principles underlying the amendments should be made clear before a fuller examination of the jurisdictional issue. First, the Agreement States of Texas and Florida (on the Gulf of Mexico only) have Submerged Lands Act jurisdiction beyond the Federal territorial sea. The Commission intends to recognize the jurisdiction of these States to the seaward limits of their seabed resources jurisdiction. Second, the Outer Continental Shelf includes only the seabed underlying the sea beyond the limits of the Agreement States' seabed resource jurisdiction, not the superjacent water. Third, the high seas begin at the limit of the Federal territorial sea and extend to another country's territorial sea.

After examining the issue of jurisdiction, the Commission has concluded that NRC retains jurisdiction vis-a-vis coastal Agreement States over persons using byproduct, source, and special nuclear materials when these materials are used in the offshore waters previously described. NRC's jurisdiction over persons using these materials extends seaward from the limit of the States' jurisdiction, above the U.S. Outer Continental Shelf, continues past the Shelf onto the high seas, and, in most instances, stops at another country's territorial sea, as recognized by the United States. This conclusion is based on several considerations.

The Commission's jurisdiction over persons using byproduct, source, or special nuclear materials is found in sections 81 and 82 (byproduct material), 62, 63, and 64 (source material), and 53, 54, and 57 (special nuclear material) of the Atomic Energy Act, as amended. These sections grant NRC *in personam* jurisdiction, that is, jurisdiction over a person (when stating, "No person may * * *").

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[1] An Agreement State is a State with which NRC has an agreement under section 274 of the Atomic Energy Act. Section 274 of the Atomic Energy Act was enacted in 1959, to recognize the States' interest in atomic energy activities, to clarify the respective responsibilities of the States and the Commission under the Act, and to provide a statutory means by which the Commission can discontinue certain of its regulatory responsibilities with respect to byproduct, source, and special nuclear materials and by which the States can assume these responsibilities. An agreement made pursuant to section 274b. carries out the basic Congressional intent that either the State or the Commission—but not both—should regulate a given atomic energy activity from the point of view of radiation protection. One of the evils that Congress sought to avoid was "dual regulation." This means that, insofar as regulation of these materials by the State and the Commission is concerned, the activities discontinued under the agreement will be regulated only by the State, and that the activities reserved by the Commission will be regulated only by the Commission.

[2] Copies of comments are available for inspection at NRC's Public Document Room at 1717 H Street, NW., Washington, D.C.

Continental Shelf arose between the Federal Government and certain States, the Atomic Energy Commission (AEC) followed a personal, as opposed to a territorial, approach to offshore jurisdiction. This allowed Agreement States, with AEC's acquiescence, to regulate their own citizens' offshore uses of materials within the purview of an agreement under section 274b. of the Atomic Energy Act (described in the footnote); in 1967, in light of the submerged lands controversy, this practice was changed in part because the Federal Government argued that things, such as oil drilling rigs, attached to the U.S. Outer Continental Shelf were subject to its exclusive jurisdiction; for the AEC, this meant that an Agreement State did not have jurisdiction to regulate possession and use of byproduct, source or special nuclear materials on such things as oil rigs in offshore waters, as previously described.

At the time of the submerged lands controversy, the AEC was negotiating a standard agreement with Louisiana pursuant to section 274b. of the Atomic Energy Act. So as not to compromise the pending litigation between the Federal Government and Louisiana, the AEC and Louisiana also entered into a Memorandum of Understanding and an agreement under section 274i. of the Act. The Memorandum of Understanding, which is still in effect between NRC and Louisiana, states, in essence, that AEC (now NRC) retains regulatory authority over the disputed area in the Gulf of Mexico and that the agreement made pursuant to section 247b. of the Act shall not prejudice the position of either the United States or Louisiana in the pending litigation. The agreement under section 274i. of the Act, which is also still in effect, invokes the authority granted to the Commission under section 274i. of the Act to enter into agreements with States "to perform inspections or other functions on a cooperative basis as the Commission deems appropriate." The agreement authorizes Louisiana to perform certain inspections and other functions for and on behalf of the Commission.

This rule would allow Louisiana and NRC to terminate the Memorandum of Understanding and to enter into a revised agreement under section 274i. of the Act.

The Supreme Court in a series of cases has settled the Federal-State dispute over the Outer Continental Shelf in the Gulf of Mexico. *United States* v. *Louisiana*, 389 U.S. 155 (1967), 394 U.S. 1 (1969) (cited as the Texas Boundary Case), 394 U.S. 11 (1969) (cited as the Louisiana Boundary Case), and 404 U.S. 388 (1971) (also cited as the Louisiana Boundary Case).

It is now clear that the Outer Continental Shelf Lands Act has placed the Outer Continental Shelf under exclusive Federal jurisdiction, extending the laws of the United States to the subsoil and seabed of the Shelf and to all artificial islands and fixed structures erected thereon (see 43 U.S.C. 1331, *et seq.*). It should be noted, however, that for some purposes State law is adopted as a surrogate for Federal law under the Act to the extent that such State law is "applicable and not inconsistent with * * * other Federal laws." 43 U.S.C. 1333(a)(2); *Rodriguez* v. *Aetna Casualty Co.*, 395 U.S. 352, 365 (1969); *Union Oil Company* v. *Oppen*, 501 F.2d 558, 561 (1974); *Oppen* v. *Aetna Insurance Co.* 485 F.2d 252, 255, (1973.) It should also be noted that the Act does not apply to the sea above the subsoil and seabed. 43 U.S.C. 1332(b).

It is thus clear as regards oil drilling rigs, for example, that NRC has jurisdiction over persons in offshore waters beyond an Agreement State's Submerged Lands Act jurisdiction using byproduct, source, or special nuclear materials on these rigs, for these rigs are attached to the Outer Continental Shelf and are considered fixed structures erected on the seabed.

It is also clear that NRC has jurisdiction over persons in offshore waters beyond an Agreement State's Submerged Lands Act jurisdiction and above the Outer Continental Shelf using byproduct, source, or special nuclear materials on free-floating objects, such as lay barges or other vessels, or in offshore diving activities. This view is based on the *in personam* jurisdiction argument described before and supported by another argument.

Sections 274b. and 274d. of the Atomic Energy Act, under which NRC may either retain or discontinue certain parts of its regulatory authority, do not provide for discontinuance of the Commission's regulatory authority over byproduct, source, or special nuclear materials not "within a State". Thus, the Commission retains jurisdiction over persons using these materials and specifically licensed by the Commission or Agreement States when these persons are not within an Agreement State. This jurisdiction extends on the high seas seaward from the limits of the State's jurisdiction, but normally stops when it would conflict with another country's territorial sea, as recognized by the United States.

Resolution of the Problem

The General License

Since the present problem is limited to incidents in offshore waters, and because the Commission has jurisdiction in these waters, it has extended its general licensing scheme to activities of specific licensees of Agreement State in this land and water area. It has done so in two compatible ways. First, it has recognized Agreement State specific licenses in a new NRC general license (without a time limitation) covering activities in offshore waters. (It should be noted, by the way, that NRC specific licensees currently authorized to operate in offshore waters, of course, would not need to request a license amendment in order to continue to do so.) Second, it has extended a reporting requirement (it already uses on land) to monitor the activities of these licensees—except that it would not impose this requirement when an Agreement State has an agreement with the Commission under section 274i. of the Atomic Energy Act to perform inspections for it.

The Commission believes that the regulation change will remove present ambiguities and go a long way toward providing administrative simplicity. It therefore has broadened the scope of Parts 31 and 150 to provide for Commission regulatory authority in the form of general licensing over persons in offshore waters, namely, beyond Agreement States' Submerged Lands Act jurisdiction and on or above the Outer Continental Shelf.

As presently drafted, §§ 31.6 and 150.20 grant general licenses to a person with a specific license from an Agreement State to conduct the licensed activity within non-Agreement States. However § 150.20 presently authorizes a person to engage in activities in non-Agreement States under NRC's general license for no more than 180 days (calculated cumulatively) in any calendar year. Presently, at the end of this period, the general license expires and the person needs a specific license from the Commission to continue to engage in these activities in non-Agreement States. The reason for obtaining such a license is described *In the Matter of Chem-Nuclear Systems, Inc.*, 10 NRC 865 (1979), namely, that long-term field operations should be controlled through specific licensing. Operations in offshore waters, however, are short term and of a somewhat different character than those on land (for example, radiography is performed on board lay barges moving back and forth between jurisdictions, i.e., between the shore and oil rigs far from the shore).

Moreover, simplified regulation between NRC and Agreement States is desirable in this area. Therefore, in response to the comments received, under §§ 31.6 and 150.20 new general licenses have been created for the offshore area. These are modified versions of the general license for activities on land. They allow persons operating in the offshore area to do so under the general licenses without having to apply for a specific license after the 180-day period.

The NRC–241 Form

As mentioned before, Louisiana questioned the need for Agreement State licensees (working in the offshore area under the NRC general license) to file NRC–241 forms, since similar forms are already filed with respect to its own inspections. The Commission wanted to extend this requirement (presently used on land with respect to general licensees) to the offshore area to enable it to track the activities of its general licensees in order to make its own inspections. After discussions with Louisiana, the Commission has decided to continue to allow that State to perform inspections for NRC in the defined offshore area under the previously-described 274i. Agreement and to update that Agreement. Additionally, after discussions with the other coastal Agreement States, the Commission has also decided to permit all these States to perform inspections for it under similar 274i. agreements.

In light of this development, the final rule now states that the Commission requires the filing of the NRC–241 form, unless the licensee provides to the Agreement State that issued the specific license timely notification of its offshore activities and that State is listed in the rule as agreeing to perform inspections for NRC under a 274i. agreement. Louisiana is the only State now listed in the rule because it already has the requisite agreement. The rule will contain a complete list as soon as the Commission has section 247i. agreements with the other coastal Agreement States. It is presently pursuing discussions with them toward that end. Thus, the issues of offshore inspection and of the use of the reporting forms have been resolved simultaneously by allowing Agreement States to perform inspections on NRC's behalf, thereby simplifying the Commission's regulatory efforts and avoiding dual reporting for the defined offshore area.

Definition of "Offshore Waters"

It should be noted that the rule defines "offshore waters" as "that area of land and water, beyond Agreement States' Submerged Lands Act jurisdiction, on or above the U.S. Outer Continental Shelf" without specifying for each Agreement State the exact boundaries of these waters and the land area of the Shelf. The definition of offshore waters is designed to keep the proposed rule simple. Aside from the fact that it is not feasible to draw cartographic lines in any regulation, it is unnecessary to do so. The Supreme Court has decided the Federal-State dispute over the land areas of the Outer Continental Shelf and, as a matter of law, defined the necessary boundary lines. Further, as a practical matter, the three-mile limit is depicted generally on large-scale nautical charts of the United States published by the National Ocean Survey of the Department of Commerce.

In addition, in the cases of Texas and Louisiana cited before, the Supreme Court defined the necessary boundary lines as a matter of fact. Thus, in the case of Louisiana, for example, its jurisdiction over the seabed of the Shelf extends three nautical miles from its coastline; and, in the case of Texas, for example (and the same is true for Florida), as a technical legal matter having to do with its admission as a State of the Union, its jurisdiction over the seabed of the Shelf extends up to nine nautical miles from its coastline.

Thus, the definition in the proposed rule is intended to cover, in an understandable and simple fashion, the Commission's jurisdiction over persons operating beyond the Agreement States' normal three-mile jurisdictional limit, just described, and using byproduct, source, or special nuclear materials on things, such as oil rigs, attached to the seabed of the Outer Continental Shelf as well as the Commission's jurisdiction over persons using these materials in diving activities or on free-floating objects, such as lay barges and other vessels, in the waters above the seabed of the Shelf.

It should also be noted that the rule is focused on the Outer Continental Shelf area and not on the high seas beyond the Shelf. Thus, beyond the Outer Continental Shelf, NRC will continue, as has been the case historically, its licensing authority over certain kinds of persons, such as the Navy using nuclear material on naval vessels, while Agreement States will retain their authority over other kinds of persons, such as, for example, those using nuclear materials on State-chartered research vessels. In other words, the Commission acknowledges its present practice of regarding possession and use of nuclear materials on those high seas beyond the Shelf by certain citizens of littoral States as also subject to those States' regulatory authorities. However, in light of the previous jurisdictional statement, the Commission reserves the right to alter or amend such practice at any time.

Paperwork Reduction Act

This final rule contains no new or amended requirements for recordkeeping, reporting, plans or procedures, applications or any other type of information collection.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 31 and 150, are published as a document subject to codification.

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46 FR 50781
Published 10/15/81
Effective 10/15/81

10 CFR Part 150

NRC's Jurisdiction Over Persons Using Byproduct, Source or Special Nuclear Materials in Certain Offshore Waters; Corrections

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule; corrections.

SUMMARY: The Commission is publishing two minor corrections to its amendment regarding NRC's jurisdiction in certain offshore waters that appear in the Federal Register on September 3, 1981 (46 FR 44149).

EFFECTIVE DATE: October 15, 1981.

SUPPLEMENTARY INFORMATION: In a Federal Register notice published in September 1981 (46 FR 44149), in 10 CFR 150.20(b)(1) the clause beginning with *"Provided, however"* and the remainder of the paragraph were inadvertently omitted. Further, in 10 CFR 150.20(b)(3) the end mark should have been a semicolon.

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46 FR 55085
Published 11/6/81
Effective 11/6/81

Removal of Certain Information Collection Requirements for Tritium

See Part 30 Statements of Consideration

47 FR 8
Published 1/4/82
Effective 1/4/82

Submittal of Installation Information Pursuant to US/IAEA Safeguards Agreement

See Part 40 Statements of Consideration

47 FR 30452
Published 7/14/82
Effective 10/12/82

Protection of Employees Who Provide Information

See Part 19 Statements of Consideration

48 FR 39036
Published 8/29/83
Effective 9/28/83

Irretrievable Well-logging Sources

See Part 30 Statements of Consideration

48 FR 40882

Published 9/12/83

10 CFR Part 150

Irretrievable Well-Logging Sources

Correction

In FR Doc. 83–23603 beginning on page 39036 in the issue of Monday, August 29, 1983, make the following corrections in the first column on page 39039:

1. Between the third and fourth lines from the bottom of the page, insert the following language:

"8. Remove the authority citations following §§ 150.3, 150.14, 150.15, 150.15a, 150.30, 150.31, and 150.32."

2. In the fourth line from the bottom of the page the section number reading "1509.32" should read "150.32".

49 FR 19623
Published 5/9/84
Effective 5/9/84

Information Collection Requirements; Display of OMB Control Numbers

See Part 0 Statements of Consideration

➤ **49 FR 24705**
Published 6/15/84
Effective 7/16/84

Tritium and Source Material Reports

See Part 30 Statements of Consideration

PART 160

TRESPASSING ON COMMISSION PROPERTY

Sec.
160.1 Purpose.
160.2 Scope.
160.3 Trespass.
160.4 Unauthorized introduction of weapons or dangerous materials.
160.5 Violations and penalties.
160.6 Posting.
160.7 Effective date of prohibition on designated locations.
160.8 Applicability of other laws.

AUTHORITY: Sec. 161, 68 Stat. 948, sec. 229, 70 Stat. 1070 (42 U.S.C. 2201, 2278a). Sec. 201(f), Pub. L. 93-438, 88 Stat. 1243 (42 U.S.C. 5841).

§ 160.1 Purpose

The regulations in this part are issued for the protection and security of facilities, installations and real property subject to the proprietary jurisdiction or administration, or in the custody of, the Nuclear Regulatory Commission.

28 FR 8400

§ 160.2 Scope.

The regulations in this part apply to all facilities, installations, and real property subject to the jurisdiction or administration of the Nuclear Regulatory Commission or in its custody which have been posted with a notice of the prohibitions and penalties set forth in this part.

40 FR 8774

§ 160.3 Trespass.

Unauthorized entry upon any facility, installation or real property subject to this part is prohibited.

§ 160.4 Unauthorized introduction of weapons or dangerous materials.

Unauthorized carrying, transporting, or otherwise introducing or causing to be introduced any dangerous weapon, explosive, or other dangerous instrument or material likely to produce substantial injury or damage to persons or property, into or upon any facility, installation or real property subject to this part, is prohibited.

28 FR 8400

§ 160.5 Violations and penalties.

(a) Whoever willfully violates either § 160.3 or § 160.4 shall, upon conviction, be punishable by a fine of not more than $1,000.

(b) Whoever willfully violates either § 160.3 or § 160.4 with respect to any facility, installation or real property enclosed by a fence, wall, floor, roof, or other structural barrier shall be guilty of a misdemeanor and, upon conviction, shall be punished by a fine of not to exceed $5,000 or imprisonment for not more than one year, or both.

28 FR 8400

§ 160.6 Posting.

Notices stating the pertinent prohibitions of § 160.3 and 160.4 and penalties of § 160.5 will be conspicuously posted at all entrances of each designated facility, installation or parcel of real property and at such intervals along the perimeter as will provide reasonable assurance of notice to persons about to enter.

§ 160.7 Effective date of prohibition on designated locations.

The prohibitions in §§ 160.3 and 160.4 shall take effect as to any facility, installation or real property on publication in the FEDERAL REGISTER of the notice designating the facility, installation or real property and posting in accordance with § 160.6

28 FR 8400

§ 160.8 Applicability of other laws.

Nothing in this part shall be construed to affect the applicability of the provisions of State or other Federal laws.

PART 160

TRESPASSING ON COMMISSION PROPERTY

STATEMENTS OF CONSIDERATION

28 FR 8400
Published 8/16/63
Effective 9/15/63

The following regulations implement section 229 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2278 a., which reads as follows:

> SEC. 229. *Trespass Upon Commission Installations.*
>
> a. The Commission is authorized to issue regulations relating to the entry upon or carrying, transporting, or otherwise introducing or causing to be introduced any dangerous weapon, explosive, or other dangerous instrument or material likely to produce substantial injury or damage to persons or property, into or upon any facility, installation or real property, subject to the jurisdiction, administration, or in the custody of the Commission. Every such regulation of the Commission shall be posted conspicuously at the location involved.
>
> b. Whoever shall willfully violate any regulation of the Commission issued pursuant to subsection a. shall, upon conviction thereof, be punishable by a fine of not more than $1,000.
>
> c. Whoever shall willfully violate any regulation of the Commission issued pursuant to subsection a. with respect to any installation or other property which is enclosed by a fence, wall, floor, roof, or other structural barrier shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not to exceed $5,000 or to imprisonment for not more than one year, or both

Pursuant to the Atomic Energy Act of 1954, as amended, and the Administrative Procedure Act, the following regulations are published as a document subject to codification, to be effective thirty (30) days after publication in the FEDERAL REGISTER

40 FR 8774
Published 3/3/75
Effective 3/3/75

Energy Reorganization Act: Revisions to Chapter 1 to Reflect Organizational and Procedural Changes

See Part 2 Statements of Consideration.

PART 170

FEES FOR FACILITIES AND MATERIALS LICENSES AND OTHER REGULATORY SERVICES UNDER THE ATOMIC ENERGY ACT OF 1954, AS AMENDED★

GENERAL PROVISIONS

Sec.
170.1 Purpose.
170.2 Scope.
170.3 Definitions.
170.4 Interpretations.
170.5 Communications.
170.11 Exemptions.
170.12 Payment of fees.
170.20 Average cost per professional staff-hour

SCHEDULE OF FEES

170.21 Schedule of fees for production and utilization facilities, review of reference standardized designs, and special projects.
170.22 Schedule of fees for facility license amendments.
170.23 Schedule of fees for routine health, safety and environmental inspections of facililities.
170.24 Schedule of fees for routine safeguards inspections of facilities.
170.31 Schedule of fees for materials licenses and other regulatory services.
170.32 Schedule of fees for health and safety, and safeguards inspections for materials licenses.

ENFORCEMENT

170.41 Failure by applicant or licensee to pay prescribed fees.
170.51 Right to review and appeal of prescribed fees

49FR21293 Authority: 31 U.S.C. 9701, 96 Stat. 1051; sec. 501, Pub. L. 92–314, 86 Stat. 222 (42 U.S.C. 2201w); sec. 201, 88 Stat. 1242, as amended (42 U.S.C. 5841).

GENERAL PROVISIONS

40 FR 8794

§ 170.1 Purpose.

The regulations in this part set out fees charged for licensing services rendered by the Nuclear Regulatory Commission as authorized under Title V of the Independent Offices Appropriation Act of 1952 (65 Stat. 290; 31 U.S.C. 483a) and provisions regarding their payment.

49 FR 21293

§ 170.2 Scope.

Except for persons who apply for or hold the permits, licenses, or approvals exempted in § 170.11, the regulations in this part apply to a person who is—

(a) An applicant for or holder of a specific byproduct material license issued pursuant to Parts 30 and 32 through 35 of this chapter;

(b) An applicant for or holder of a specific source material license issued pursuant to Part 40 of this chapter;

(c) An applicant for or holder of a specific special nuclear material license issued pursuant to Part 70 of this chapter;

49 FR 21293 (d) An applicant for or holder of specific approval of spent fuel casks and shipping containers issued pursuant to Part 71 of this chapter;

(e) An applicant for or holder of a specific license to possess power reactor spent fuel and other radioactive materials associated with spent fuel storage in an independent spent fuel storage installation issued pursuant to Part 72 of this chapter;

(f) An applicant for or holder of a specific approval of sealed sources and devices containing byproduct material, source material, or special nuclear material;

(g) An applicant for or holder of a production or utilization facility construction permit, operating license, or manufacturing license issued pursuant to Part 50 of this chapter;

(h) Required to have examinations and tests performed to qualify or requalify individuals as Part 55 reactor operators;

(i) Required to have routine and nonroutine safety and safeguards inspections of activities licensed pursuant to the requirements of this chapter;

(j) Applying for or is holder of an approval of a standard reference design for a nuclear steam supply system of balance of plant;

(k) Applying for or already has applied for review of a facility site prior to the submission of an application for a construction permit;

(l) Applying for or already has applied for review of a standardized spent fuel facility design; or

(m) Applying for or has applied for since March 23, 1978, review of an item under the category of special projects in this chapter that the Commission completes or makes whether or not in conjunction with a license application on file or that may be filed.

(n) An applicant for or holder of a license, approval, determination, or other authorization issued by the Commission pursuant to 10 CFR Part 61.

33FR10923

§ 170.3 Definitions.

As used in this part:

(a) "Byproduct material" means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material.

33 FR 10923 (b) "Government agency" means any executive department, commission, independent establishment, corporation, wholly or partly owned by the United States of America which is an instrumentality of the United States, or any board, bureau, division, service, office, officer, authority, administration, or other establishment in the executive branch of the Government.

46 FR 58281 **(c) "Materials License" means a byproduct material license issued pursuant to Part 30 of this chapter, or a source material license issued pursuant to Part 40 of this chapter, or a special nuclear material license issued pursuant to Part 70 of this chapter, or a license for the storage of spent fuel issued pursuant to Part 72 of this chapter.**

33 FR 10923 (d) "Nuclear reactor" means an apparatus, other than an atomic weapon, designed or used to sustain nuclear fission in a self-supporting chain reaction.

(e) "Other production or utilization facility" means a facility other than a nuclear reactor licensed by the Commission under the authority of section 103 or 104 of the Atomic Energy Act of 1954, as amended (the Act), and pursuant to the provisions of Part 50 of this chapter.

(f) "Power reactor" means a nuclear reactor designed to produce electrical or heat energy licensed by the Commission under the authority of section 103 or subsection 104b of the Act and pursuant to the provisions of § 50.21(b) or § 50.22 of this chapter.

(g) "Production facility" means:

(1) Any nuclear reactor designed or used primarily for the formation of plutonium or uranium-233; or

(2) Any facility designed or used for the separation of the isotopes of uranium or the isotopes of plutonium, except laboratory scale facilities designed or used for experimental or analytical purposes only; or

40 FR 8774 (3) Any facility designed or used for the processing of irradiated materials containing special nuclear material except:

(i) Laboratory scale facilities designed or used for experimental or

40 FR 8774

analytical purposes;

(ii) Facilities in which the only special nuclear materials contained in the irradiated material to be processed are uranium enriched in the isotope U^{235} and plutonium produced by the irradiation, if the material processed contains not more than 10^{-6} grams of plutonium per gram of U^{235} and has fission product activity not in excess of 0.25 millicurie of fission products per gram of U^{235}; and

(iii) Facilities in which processing is conducted pursuant to a license issued under Parts 30 and 70 of this chapter, or equivalent regulations of an Agreement State, for the receipt, possession, use, and transfer of irradiated special nuclear material, which authorizes the processing of the irradiated material on a batch basis for the separation of selected fission products and limits the process batch to not more than 100 grams of uranium enriched in the isotope 235 and not more than 15 grams of any other special nuclear material.

33 FR 10923

(h) "Research reactor" means a nuclear reactor licensed by the Commission under the authority of subsection 104c of the Act and pursuant to the provisions of § 50.21(c) of this chapter for operation at a thermal power level of 10 megawatts or less, and which is not a testing facility as defined by paragraph (m) of this section.

(i) "Sealed source" means any byproduct material that is encased in a capsule designed to prevent leakage or escape of the byproduct material.

(j) "Source material" means:

(1) Uranium or thorium, or any combination thereof, in any physical or chemical form; or

(2) Ores which contain by weight one-twentieth of one percent (0.05%) or more of (i) uranium, (ii) thorium, or (iii) any combination thereof. Source material does not include special nuclear material.

(k) "Special nuclear material" means:

(1) Plutonium, uranium-233, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of section 51 of the Act, determines to be special nuclear material but does not include source material; or

(2) any material artificially enriched by any of the foregoing, but does not include source material.

38 FR 30251

(l) "Manufacturing license" means a license pursuant to Appendix M of Part 50 of this chapter to manufacture a nuclear power reactor(s) to be operated at sites not identified in the license application.

33 FR 11587

(m) "Testing facility" means a nuclear reactor licensed by the Commission under the authority of subsection 104c of the Act and pursuant to the provisions of § 50.21(c) of this chapter for operation at:

33 FR 10923

(1) A thermal power level in excess of 10 megawatts; or

(2) A thermal power level in excess of 1 megawatt, if the reactor is to contain:

(i) A circulating loop through the core in which the applicant proposes to conduct fuel experiments; or

(ii) A liquid fuel loading; or

(iii) An experimental facility in the core in excess of 16 square inches in cross-section.

(n) "Utilization facility" means any nuclear reactor other than one designed or used primarily for the formation of plutonium or U^{233} and any other equipment or device determined by rule of the Commission to be a utilization facility within the purview of subsection 11cc of the Act.

(o) [Deleted 43 FR 7210.]

36 FR 145

(p) "Human use" means the internal or external administration of byproduct, source, or special nuclear material, or the radiation therefrom, to human beings.

43 FR 7210

(q) "Nuclear Steam Supply System" consists of the reactor core, reactor coolant system, and related auxiliary systems including the emergency core cooling system; decay heat removal system; and chemical volume and control system.

(r) "Balance of plant" consists of the remaining systems, components, and structures that comprise a complete nuclear power plant and are not included in the nuclear steam supply system.

49FR21293

(s) "Special Projects" means those requests submitted to the Commission for review for which fees are not otherwise specified in this chapter. Examples of special projects include, but are not limited to, topical and other report reviews, early site reviews, waste solidification facilities, route approvals for shipment of radioactive materials, and services provided to certify licensee, vendor, or other private industry personnel as instructors for Part 55 reactor operators.

(t) "Inspections" means—

(1) Routine inspections designed to evaluate the licensee's activities within the context of the licensee having primary responsibility for protection of the public and environment.

(2) Non-routine inspections in response or reaction to an incident, allegation, followup to inspection deficiencies or inspections to determine implementation of safety issues. A non-routine or reactive inspection has the same purpose as the routine inspection.

(u) "Person" as used in this part has the same meaning as found in Parts 30, 40, 50, and 70 of Title 10 of the Code of Federal Regulations.

(v) "Part 55 Reviews" as used in this Part means those services provided by the Commission to administer requalification and replacement examinations and tests for reactor operators licensed pursuant to 10 CFR Part 55 of the Commission's regulations and employed by Part 50 licensees. These services also include related items such as the preparation, review, and grading of the examinations and tests.

43 FR 7210

(w) "Reference systems concept" means a concept that involves the review of an entire facility design or major fraction of a facility design outside of the context of a license application. The standard design would be referenced in subsequent license applications.

(x) "Advanced reactor" means any nuclear reactor concept other than light water reactors and high temperature gas cooled reactors.

49 FR 21293

(y) "Application" means any request filed with the Commission for a permit, license, approval, exemption, certificate, other permission, or for any other service.

(z) The phrase "review is completed" as used in this Part means that the review has been brought to an end, whether by reason of issuance of a permit, license, approval, certificate, exemption, or other form of permission, or whether the application is denied, withdrawn, suspended, or action on the application is postponed by the applicant.

33 FR 11587

§ 170.4 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by an officer or employee of the Commission other than a written interpretation by the General Counsel will be recognized to be binding upon the Commission.

40 FR 8774

§170.5 Communications.

All communications concerning the regulations in this part should be addressed to the Executive Director for Operation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Communications may be delivered in person at the Commission's offices at 1717 H Street NW, Washington, DC on or at 7920 Norfolk Ave., Bethesda, MD

33 FR 11587

§ 170.11 Exemptions.

43 FR 7210

(a) No application fees, license fees, amendment fees, renewal fees, approval fees, or inspection fees shall be required for:

(1) A license authorizing the export only of a production or utilization facility.

(2) A license authorizing the export only or import only of byproduct material, source material or special nuclear material.

(3) A license authorizing the receipt, ownership, possession, use, or production of byproduct material, source material, or special nuclear material incidental to the operation of a production or utilization facility licensed under Part 50 of this chapter, including a license under Part 70 of this chapter that authorizes possession and storage only of special nuclear material at the site of a nuclear reactor for use as fuel in operation of the nuclear reactor or at the site of a spent fuel processing plant for processing at the plant, except for licenses authorizing storage of low-level radioactive waste at nuclear reactor sites.

(4) A construction permit or license applied for by, or issued to, a nonprofit educational institution for a production facility or utilization facility, other than a power reactor, to be used for teaching, training, or medical purposes, except human use, or for byproduct material, source material, or special nuclear material to be used for teaching, training or medical purposes, except human use, or in connection with a facility, other than a power reactor, used for teaching, training, or medical purposes, except human use.

(5) A construction permit or license applied for by, or issued to, a Government agency, except for a utilization facility designed to produce electrical or heat energy pursuant to section 103 or 104b of the Atomic Energy Act of 1954, as amended.

(6) [Deleted 38 FR 18443.]

(7) [Deleted 38 FR 18443.]

(8) A license authorizing the use source material as shielding only in devices and containers, provided, however, that all other licensed byproduct material, source material, or special nuclear material in the device or container will be subject to the fees prescribed in § 170.31.

(9) A license for possession and use of byproduct material, source material, or special nuclear material applied for by, or issued to, an agency of a State or any political subdivision thereof, except for licenses which authorize distribution of byproduct material, source material, or special nuclear material, or products containing byproduct material, source material, or special nuclear material, or licenses authorizing services to any person other than an agency or political subdivision of the State.

(10) Activities of the Commission undertaken, pursuant to Part 75 of this chapter, solely for the purpose of implementation of the US/IAEA Safeguards Agreement.

(b) (1) The Commission may, upon application by an interested person, or upon its own initiative, grant such exemptions from the requirements of this part as it determines are authorized by law and are otherwise in the public interest.

(2) Applications for exemption under this paragraph may include activities such as, but not limited to, the use of licensed materials for educational or noncommercial public displays or scientific collections.

(3) [Deleted 43 FR 7210.]

§ 170.12 Payment of fees.

(a) *Application Fees.* Each application for which a fee is prescribed shall be accompanied by a remittance in the full amount of the fee. No application will be accepted for filing or processed prior to payment of the full amount specified. Applications for which no remittance is received may be returned to the applicant. All application fees will be charged irrespective of the Commission's disposition of the application or a withdrawal of the application.

(b) *License fees.* Fees for review of applications for permits, licenses, and facility standard reference design approvals are payable upon notification by the Commission. For each application on which the review charges are based on full costs and the application has been pending with the Commission for six months or longer, the first bill for accumulated costs will be sent at the time this rule becomes effective and will include all of the applicable review time and contractual costs expended. Thereafter, each applicant will be billed at six-month intervals or when the review is completed, whichever is earlier. Each bill will identify the applications and the costs related to each.

(c) *Amendment fees and other required approvals.* All applications for license amendments, other required approvals and requests for dismantling, decommissioning and termination of licensed activities that are subject to fees based on the full cost of the reviews must be accompanied by an application fee of $150. Fees for amendments, other required approvals and request for dismantling, decommissioning and terminating of licensed activities that are subject to full cost reviews are payable upon notification by the Commission. Each applicant will be billed at six-month intervals for all accumulated costs for each application the applicant has on file for review by the Commission, and each six-month period thereafter or when review is completed, whichever is earlier. Each bill will identify the applications and costs related to each. Amendment fees for materials licenses and approvals not subject to full cost reviews are payable at the time the application is filed.

(d) *Renewal fees.* All applications for renewals subject to fees based on the full cost of the review must be accompanied by an application fee of $150. Fees for renewal of permits and licenses and other required approvals subject to full cost reviews are payable upon notification by the Commission. Each applicant will be billed at six-month intervals for all accumulated costs on each application that the applicant has on file for review by the Commission, and each six-month period thereafter or when the review is completed, whichever is earlier. Each bill will identify the applications and the costs related to each. Renewal fees for materials licenses and approvals not subject to full cost reviews are payable at the time the application is filed.

(e) *Approval fees.* Applications for spent fuel casks, packages, and shipping container approvals, spent fuel storage facility design approvals, and construction approvals for plutonium fuel processing and fabrication plants must be accompanied by an application fee of $150. Applications for facility standard reference design approvals must be accompanied by an application fee of $50,000. Fees for applications that are subject to full cost reviews are payable upon notification by the Commission. For each application for which the review charges are based on full costs and the application has been pending with the Commission for six months or longer, the first bill for accumulated costs will be sent at the time this rule becomes effective and will include all of the applicable review time and contractual costs expended. Thereafter, each applicant will be billed at six-month intervals or when the review is completed, whichever is earlier. Each bill will identify the applications and the costs related to each.

(f) *Special project fees.* All applications for special projects must be accompanied by an application fee of $150. Fees for special projects are payable upon notification by the Commssion. For each application for which the review charges are based on full costs and the application has been pending with the Commission for six months or longer the first bill for accumulated costs will be sent at the time this rule becomes effective and will include all of the applicable review time and contractual costs expended. Thereafter, each applicant will be billed at six-month intervals or when the review is completed, whichever is earlier. Each bill will identify the applications and the costs related to each. For certification of a licensee, vendor, or other private industry personnel as instructors for Part 55 reactor operators, there is no application fee. The licensee, vendor, or other recipients of the services will be billed at six-month intervals for full costs.

(g) *Inspection fees.* Inspection fees are payable upon notification by the Commission. Inspection costs will include preparation time, time on site and documentation time and any associated contractual service costs but will exclude the time involved by the Enforcement staff, Office of Inspection and Enforcement, in the processing and issuance of a notice of violation or civil penalty.

(h) *Method of Payment.* Fee payments shall be by check, draft, or money order made payable to the U.S. Nuclear Regulatory Commission.

(i) *Part 55 review fees.* The costs for Part 55 review services will be subject to fees based on NRC time spent in administering the examinations and tests that are generally given at the reactor site and any related contractual costs. The costs also include related items such as preparing, reviewing, and grading of the examinations and tests. The costs will be billed at six-month intervals to the licensee employing the operators.

§ 170.20 Average cost per professional staff-hour.

(a) Fees for permits, licenses, amendments, renewals, special projects, Part 55 requalification and replacement examinations and tests, or other required approvals under §§ 170.21 and 170.31 will be calculated based upon the full costs for the review using the following applicable professional staff rates:

(1) Office of Nuclear Reactor Regulation—$62 per hour.

(2) Office of Nuclear Material Safety and Safeguards—$58 per hour.

(3) Advisory Committee on Reactor Safeguards—$62 per hour.

(4) Atomic Safety and Licensing Board Panel—$62 per hour.

(5) Atomic Safety and Licensing Appeal Panel—$66 per hour.

(b) Fees for inspections based on full cost under §§ 170.21 and 170.32 will be calculated using the following applicable professional staff rates:

(1) Office of Inspection and Enforcement and NRC Regional Offices—$53 per hour.

SCHEDULE OF FEES

§ 170.21 Schedule of fees for production and utilization facilities, review of standard reference design approvals, special projects, and inspections.

Applicants for construction permits, manufacturing licenses, operating licenses, approvals of facility standard reference designs, requalification and replacement examinations for reactor operators, and special projects and holders of construction permits, licenses, and other approvals shall pay the following fees.

SCHEDULE OF FACILITY FEES

[See footnotes at end of table]

Facility categories and type of fees	Fees [1, 2]
A. Power Reactors	
Application—Construction Permit	$125,000.
Construction Permit	Full cost.[4]
Operating License	$3,077,400
Application for Amendment, Renewal, Other Approvals	$150.
Amendment, Other Approvals	$164,600
Renewal Dismantling-Decommissioning and Termination	Full cost.[4]
Inspections:[3]	
1. Routine	$300,000
2. Non-Routine	Full cost.[4]
B. Standard Reference Design Review	
Application—Preliminary	$50,000
Application—Final	$50,000
Approvals:	
1. Preliminary	$1,427,100
2. Final	$1,427,100.
Application for Amendment, Renewal, Other Approvals	$150
Amendment, Renewal, Other Approvals	Full cost.[4]
C. Test Facility/Research Reactor/Critical Facility	
Application—Construction Permit	$5,000.
Construction Permit	Full cost.[4]
Operating License	Full cost.[4]
Application for Amendment, Renewal, Other Approvals	$150.
Amendment, Other Approvals	$42,100.
Renewal, Dismantling, Decommissioning and Termination	Full cost.[4]
Inspections:[3]	
1. Routine	$3,200.
2. Non-Routine	Full cost.[4]
D. Manufacturing License	
Application	$125,000
Manufacturing License:	
Preliminary Design Approval	$3,252,300
Final Design Approval	Full cost.[4]
Application for Amendment, Renewal, Other Approvals.	$150.
Amendment, Renewal, Other Approvals	Full cost.[4]
Inspections:[3]	
1. Routine	Full cost.[4]
2. Non-Routine	Full cost.[4]
E. Uranium Enrichment Plant	
Application—Construction Permit	$125,000
Construction Permit	Full cost.[4]
Operating License	Full cost.[4]
Application for Amendment, Renewal, Other Approvals.	$150.
Amendment, Renewal, Other Approvals	Full cost.[4]
Inspections:[3]	
1. Routine	Full cost.[4]
2. Non-Routine	Full cost.[4]
F. Advanced Reactors	
Application—Construction Permit	$125,000
Construction Permit	Full cost.[4]
Operating License	Full cost.[4]
Application for Amendment, Renewal, Other Approvals.	$150.
Amendment, Renewal, Other Approvals	Full cost.[4]
Inspections:[3]	
1. Routine	Full cost.[4]
2. Non-Routine	Full cost.[4]
G. Other Production and Utilization Facility	
Application—Construction Permit	$125,000.
Construction Permit	Full cost.[4]
Operating License	Full cost.[4]
Application for Amendment, Renewal, Other Approvals	$150.
Amendment, Renewal, Other Approvals	Full cost.[4]
Inspections:[3]	
1. Routine	Full cost.[4]
2. Non-Routine	Full cost.[4]
H. Production or Utilization Facility permanently closed down	
Inspections:[3]	
1. Routine	Full cost.[4]
2. Non-Routine	Full cost.[4]
I. Part 55 Reviews	
Requalification and Replacement Examinations for Reactor Operators.	$147,600 [5]
J. Special Projects	
Application	$150
Approvals:	
1. Topical Reports	$20,000
2. Amendments, Revisions and Supplements to Topical Reports.	$20,000
3. Licensee, Vendor, and Other Private Industry Personnel Certification as Instructors for Part 55 Reactor Operators.	Full cost.[4]
4. All Other Reports, Special Projects and Amendments except those specified above in 1, 2, and 3.	Full cost.[4]

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[1] Fees will not be charged for orders issued by the Commission pursuant to § 2.204 of Part 2 of this chapter nor for amendments resulting specifically from such Commission orders. Fees will be charged for approvals issued pursuant to a specific exemption provision of the Commission's regulations under Title 10 of the Code of Federal Regulations (e.g., §§ 50.12, 73.5, and any other such sections now or hereafter in effect regardless of whether the approval is in the form of a license amendment, letter of approval, safety evaluation report, or other form. Fees for licenses in this schedule that are initially issued for less than full power are based on review through the issuance of a full power license (generally full power is considered 100% of the facility's full rated power). Thus, if a licensee received a low power license or a temporary license for less than full power and subsequently receives full power authority (by way of license amendment or otherwise), the total costs for the license will be determined through that period when authority is granted for full power operation. The ceiling provided in Facility Category A is based on 100% power authorization. If a situation arises in which the Commission determines that full operating power for a particular facility should be less than 100% of full rated power, the total costs for the license will be at that decided lower operating power level and not at the 100% capacity.

[2] The charge will not exceed the amount specified nor, where applicable, be less than the application fee. The charges will be based on the expenditures for professional staff time and appropriate contractual support services. For those reviews currently on file and for which fees are determined based on the full cost expended for the review, the professional staff hours expended for the review of the application up to the effective date of this rule will be determined and billings for that time will be at the professional rates established for the March 23, 1978 rule. Any professional hours expended on or after the effective date of this rule will be assessed at the FY 1981 rates shown in § 170.20 of this Part. These rates and any ceilings on fees or charges will be reviewed and adjusted annually as necessary to take into consideration increased or decreased costs to the Commission. Applicants, licensees and others will be given credit for the paid application fee at the time the first bill is issued for that application and on subsequent bills, if necessary, until the full amount of the remitted application fee has been credited. In the event a review covers a combination of licensing actions in a one-step licensing process such as a combined construction permit and operating license review (interim, temporary, or other), the fees charged will be the total of the costs for the licensing action.

[3] The amount shown represents the maximum that may be charged for each licensed unit during a one-year period. Inspections covered by this schedule are both routine and nonroutine safety and safeguards inspections performed by NRC for the purposes of reviewing a licensed program, but exclude investigations performed by the NRC Office of Investigations. These inspections are performed throughout the full term of the license to ensure that the authorized activities are being conducted in accordance with the Atomic Energy Act of 1954, as amended, Commission regulations, and the terms and conditions of the license. Non-routine inspections that result from third-party allegations will not be subject to fees.

[4] No ceilings are provided because these areas have not been active review areas to the extent that the Commission has a basis to determine an upper limit, or in the case of nonroutine inspections no ceilings are provided because the level of effort to conduct the inspection is determined on the basis of the safety significance and threat to the public health and safety. Fees assessed will be determined based on professional staff time required to complete the review or conduct the inspection multiplied by the rates shown in § 170.20 of this part, to which any appropriate contractual support services cost incurred will be added.

[5] The amount shown represents the maximum that may be charged for each plant site during a one-year period. The charges will be based on the expenditures for professional staff time and appropriate contractual support services.

170.22 through 170.24
[Removed 49 FR 21293]

§ 170.31 Schedule of fees for materials licenses and other regulatory services.

Applicants for materials licenses and other regulatory services and holders of materials licenses shall pay the following fees:

SCHEDULE OF FEES FOR MATERIALS LICENSES AND OTHER REGULATORY SERVICES

Category of materials licenses and type of fee[1]	Fee[2]
1. *Special nuclear material:*	
A. Licenses for possession and use of 5 kg or more of contained uranium 235 in uranium enriched to 20 pct or more, or 2 kg or more of uranium 233, for fuel processing and fabrication:[3]	
Application	$150.
License	Full cost.
Renewal	$140,600.
Amendment	$170,000.
B. Licenses for possession and use of 5 kg or more of contained uranium 235 in uranium enriched to less than 20 pct for fuel processing and fabrication:[3]	
Application	$150.
License	Full cost.
Renewal	$140,600.
Amendment	$138,000.
C. Licenses for possession and use of 2 kg or more of plutonium for fuel processing and fabrication:[3]	
Application	$150.
Construction approval and license	Full cost.
Renewal	Full cost.
Amendment	Full cost.
D. Licenses for possession and use of 5 kg or more of contained uranium 235 in unsealed form, or 2 kg or more of uranium 233, in unsealed form for activities other than fuel processing and fabrication:[3]	
Application	$150.
License	Full cost.
Renewal	$52,200.
Amendment	$63,800.
E. Licenses for possession and use of quantities of plutonium of 2 kg or more in unsealed form for activities other than fuel processing and fabrication:[3]	
Application	$150.
License	Full cost.
Renewal	$52,200.
Amendment	$46,400.
F. Licenses for possession and use of 200 g but less than 2 kg of plutonium in unsealed form:[3]	
Application	$150.
License	Full cost.
Renewal	$52,200.
Amendment	$46,400.
G. Licenses for possession and use of 350 g but less than 5 kg of contained uranium 235 in unsealed form or 200 g but less than 2 kg of uranium 233 in unsealed form:[3]	
Application	$150.
License	Full cost.
Renewal	$20,300.
Amendment	$40,800.
H. Licenses for receipt and storage of spent fuel at an independent spent fuel storage installation (ISFSI):[3]	
1. License for receipt and storage of spent fuel where the ISFSI is to be located at a new site:	
Application	$150.
License	Full cost.
Renewal	Full cost.
Amendment	Full cost.
2. License for receipt and storage of spent fuel where the ISFSI is to be located at the site of an existing nuclear facility:[4]	
Application	$150.
License	$405,200.
Renewal	Full cost.
Amendment	Full cost.
I. Applications to terminate fee Category 170.31 1A through 1H licenses and to authorize decommissioning, decontamination, reclamation or site restoration activities as well as licenses authorizing possession only:[3]	
Application	$150.
License	Full cost.
Renewal	Full cost.
Amendment	Full cost.
J. Licenses for possession and use of special nuclear material in sealed sources contained in devices used in industrial measuring systems:[5]	
Application-New license	$230.
Renewal	$120.
Amendment	$60.
K. All other special nuclear material licenses, except licenses authorizing special nuclear material in unsealed form in combination that would constitute a critical quantity as defined in § 150.11 of this chapter for which the licensee shall pay the same rate as that for Category 1G:	
Application-New license	$350.
Renewal	$350.
Amendment	$120.
2. *Source material:*	
A. Licenses for possession and use of source material and byproduct waste material from milling operations, except in in-situ leaching and heap-leaching operations, ore-buying stations, ion-exchange facilities, and the processing of ores containing source material for extraction of metals:[3]	
Application	$150.
License	$341,000.
Renewal	$105,400.
Amendment	$44,000.
B. Licenses for processing and recovery of source material in in-situ leaching operations or heap-leaching operations and possession of byproduct waste material from in-situ or heap leach operations:[3]	
Production scale activity, except heap leach:	
Application	$150.
License	$258,000.
Renewal	$73,000.
Amendment	$43,000.
In-situ research and development scale activity and heap-leaching operations:	
Application	$150.
License	$54,200.
Renewal	$31,100.
Amendment	$22,000.
C. Licenses for refining uranium mill concentrates to uranium hexafluoride:[3]	
Application	$150.
License	Full cost.
Renewal	$140,600.
Amendment	$103,200.
D. Licenses for possession and use of source material in ore buying stations, ion-exchange facilities and the processing of ores containing source material for extraction of metals other than uranium or thorium, including licenses authorizing the possession of byproduct waste material (tailings) from source material recovery operations:[3]	
Application	$150.
License	Full cost.
Renewal	$22,000.
Amendment	$11,000.
E. Applications to terminate fee Category 170.31 2A through 2D licenses and to authorize decommissioning, decontamination, reclamation or site restoration activities or the possession and maintenance of a facility in a standby mode:[3]	
Application	$150.
License	Full cost.
Amendment	Full cost.
Renewal	Full cost.
F. Licenses for possession and use of source material for shielding, except as provided for in § 170.11(a)8:	
Application-New license	$60.
Renewal	$60.
Amendment	$60.
G. All other source material licenses:	
Application-New license	$350.
Renewal	$230.
Amendment	$120.
3. Byproduct material:	
A. Licenses of broad scope for possession and use of byproduct material issued pursuant to Parts 30 and 33 of this chapter for processing or manufacturing of items containing byproduct material for commercial distribution to licensees:	
Application-New license	$1,200.
Renewal	$700.
Amendment	$120.
B. Other licenses for possession and use of byproduct material issued pursuant to Part 30 of this chapter for processing or manufacturing of items containing byproduct material for commercial distribution to licensees:	
Application-New license	$460.
Renewal	$460.
Amendment	$120.
C. Licenses issued pursuant to §§ 32.72, 32.73, and/or 32.74 of Part 32 of this chapter authorizing the processing or manufacture and distribution of radiopharmaceuticals, generators, reagent kits and/or sources and devices containing byproduct material:	
Application-New license	$1,400.
Renewal	$1,400.
Amendment	$230.
D. Licenses and approvals issued pursuant to §§ 32.72, 32.73, and/or 32.74 of Part 32 of this chapter authorizing distribution of radiopharmaceuticals, generators, reagent kits and/or sources or devices not involving processing of byproduct material:	
Application-New license	$700.
Renewal	$700.
Amendment	$120.
E. Licenses for possession and use of byproduct material in sealed sources for irradiation of materials in which the source is not removed from its shield (self-shielded units):	
Application-New license	$230.
Renewal	$170.
Amendment	$120.
F. Licenses for possession and use of less than 10,000 curies of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes:	
Application-New license	$580.
Renewal	$350.
Amendment	$230.
G. Licenses for possession and use of 10,000 curies or more of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes:	
Application-New license	$2,300.
Renewal	$930.
Amendment	$230.

SCHEDULE OF FEES FOR MATERIALS LICENSES AND OTHER REGULATORY SERVICES—Continued

Category of materials licenses and type of fee [1]	Fee [2]
H. Licenses issued pursuant to subpart A of Part 32 of this chapter to distribute items containing byproduct material that require device review to persons exempt from the licensing requirements of Part 30 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of Part 30 of this chapter.	
Application-New license	$580.
Renewal	$230
Amendment	$120
I. Licenses issued pursuant to subpart A of Part 32 of this chapter to distribute items containing byproduct material or quantities of byproduct material that do not require device evaluation to persons exempt from the licensing requirements of Part 30 of this chapter, except for specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of Part 30 of this chapter:	
Application-New license	$290.
Renewal	$230.
Amendment	$60.
J. Licenses issued pursuant to subpart B of Part 32 of this chapter to distribute items containing byproduct material that require sealed source and/or device review to persons generally licensed under Parts 31 or 35 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons generally licensed under Parts 31 or 35 of this chapter:	
Application-New license	$1,200.
Renewal	$700.
Amendment	$230.
K. Licenses issued pursuant to subpart B of Part 32 of this chapter to distribute items containing byproduct material or quantities of byproduct material that do not require sealed source and/or device review to persons generally licensed under Part 31 or 35 of this chapter, except for specific licenses authorizing redistribution of items that have been authorized for distribution to persons generally licensed under Parts 31 or 35 of this chapter..	
Application-New license	$290.
Renewal	$230.
Amendment	$60.
L. License of broad scope for possession and use of byproduct material issued pursuant to Parts 30 and 33 of this chapter for research and development that do not authorize commercial distribution:	
Application-New license	$1,200.
Renewal	$700.
Amendment	$120.
M. Other licenses for possession and use of byproduct material issued pursuant to Part 30 of this chapter for research and development that do not authorize commercial distribution:	
Application-New license	$700.
Renewal	$460.
Amendment	$120.
N. Licenses that authorize services for other licensees, except for leak testing and waste disposal pickup services:	
Application-New license	$930
Renewal	$930.
Amendment	$120.
O. Licenses for possession and use of byproduct material issued pursuant to Part 34 of this chapter for industrial radiography operations:	
Application-New license	$700.
Renewal	$700.
Amendment	$230
P. All other specific byproduct material licenses, except those in categories 4A through 9D:	
Application-New license	$230
Renewal	$120
Amendment	$60.
4. *Waste disposal:*	
A. Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of commercial disposal by land burial by the licensee; or licenses authorizing contingency storage of low level radioactive waste at the site of nuclear power reactors; or licenses for treatment or disposal by incineration, packaging of residues resulting from incineration and transfer of packages to another person authorized to receive or dispose of waste material:[3]	
Application	$150.
License	$803,700.
Renewal	$285,600.
Amendment	$46,400.
B. Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of packaging or repackaging the material. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material:	
Application-New license	$1,400
Renewal	$930.
Amendment	$350.
C. Licenses specifically authorizing the receipt of prepackaged waste byproduct material, source material, or special nuclear material from other persons. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material:	
Application-New license	$930.
Renewal	$460.
Amendment	$120.
5. *Well logging:*	
A. Licenses specifically authorizing use of byproduct material, source material, and/or special nuclear material for well logging, well surveys, and tracer studies other than field flooding tracer studies:	
Application-New license	$700.
Renewal	$700.
Amendment	$170.
B. Licenses specifically authorizing use of byproduct material for field flooding tracer studies:	
Application	$150.
License	Full cost.[3]
Renewal	Full cost.[3]
Amendment	Full cost.[3]
6. *Nuclear laundries:*	
A. Licenses for commercial collection and laundry of items contaminated with byproduct material, source material, or special nuclear material:	
Application-New license	$700
Renewal	$700.
Amendment	$170.
7. *Human use of byproduct, source, or special nuclear material:*	
A. Licenses issued pursuant to Parts 30, 40, and 70 of this chapter for human use of byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices:	
Application-New license	$580.
Renewal	$350.
Amendment	$230.
B. Licenses of broad scope issued to medical institutions or two or more physicians pursuant to Parts 30, 33, 35, 40, and 70 of this chapter authorizing research and development, including human use of byproduct material, except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices:	
Application-New license	$1,200.
Renewal	$700.
Amendment	$120.
C. Other licenses issued pursuant to Parts 30, 35, 40, and 70 of this chapter for human use of byproduct material, source material, and/or special nuclear material, except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices:	
Application-New license	$580.
Renewal	$580.
Amendment	$120.
8. *Civil defense:*	
A. Licenses for possession and use of byproduct material, source material, or special nuclear material for civil defense activities:	
Application-New license	$290.
Renewal	$230.
Amendment	$60.
9. *Device, product or sealed source safety evaluation:*	
A. Safety evaluation of devices or products containing byproduct material, source material, or special nuclear material, except reactor fuel devices, for commercial distribution:	
Application—each device	$1,600.
Amendment—each device	$580.
B. Safety evaluation of devices or products containing byproduct material, source material, or special nuclear material manufactured in accordance with the unique specifications of, and for use by a single applicant, except reactor fuel devices:	
Application—each device	$800.
Amendment—each device	$290.
C. Safety evaluation of sealed sources containing byproduct material, source material, or special nuclear material, except reactor fuel, for commercial distribution:	
Application—each source	$350.
Amendment—each source	$120.
D. Safety evaluation of sealed sources containing byproduct material, source material, or special nuclear material, manufactured in accordance with the unique specifications of, and for use by a single applicant, except reactor fuel:	
Application—each source	$175.
Amendment—each source	$60.

49 FR 21293

SCHEDULE OF FEES FOR MATERIALS LICENSES AND OTHER REGULATORY SERVICES—Continued

Category of materials licenses and type of fee [1]	Fee [2]
10 *Transportation of radioactive material*	
A. Evaluation of spent fuel cask equal to or greater than 20 kW decay heat:	
Application	$150.
Approval	$164,000 [3]
Renewal	$1,400 [3]
Amendment	$43,000 [3]
B. Evaluation of spent fuel cask for less than 20 kW decay heat; air shipping package for plutonium; high-level waste casks; and packages containing radioactive material equal to or greater than 2,000 times the type A quantity: [6]	
Application	$150
Approval	$143,000 [3]
Renewal	$1,400 [3]
Amendment	$43,000 [3]
C. Evaluation of fissile packages containing greater than type A quantities of radioactive material or packages containing radioactive material less than 2,000 times the type A quantity [6]	
Application	$150
Approval	$65,000 [3]
Renewal	$900 [3]
Amendment	$32,000 [3]
D. Evaluation of fissile packages containing less than type A quantities of radioactive material or packages containing radioactive material less than 200 times the type A quantity [6]	
Application	$150.
Approval	$43,000 [3]
Renewal	$900. [3]
Amendment	$16,000 [3]
E. Evaluation of packages containing radioactive material less than 20 times the type A quantity: [6]	
Application	$150
Approval	$27,000. [3]
Renewal	$900. [3]
Amendment	$16,000. [3]
F. Evaluation of Part 71 Quality Assurance Programs:	
Application	$150.
Approval	Full Cost. [3]
Renewal	Full Cost. [3]
Amendment	Full Cost. [3]
11. Review of standardized spent fuel facilities:	
Application	$150.
Approval	Full Cost. [3]
Amendment	Full Cost. [3]
12. *Special projects*:	
Application	$150.
Approval:	
1. Topical Reports	$20,000
2. Amendments, Revisions and Supplements to topical reports.	$20,000
3. Transportation route approvals	Full Cost. [3]
4. All other Reports, Special Projects and Amendments except thos especified in 1, 2, and 3 above.	Full Cost. [3]

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[1] *Types of fees*—Separate charges as shown in the schedule will be assessed for applications for new licenses and approvals, issuance of new licenses and approvals, and amendments and renewals to existing licenses and approvals. The following guidelines apply to these charges:

(a) *Application fees*—Applications for materials licenses and approvals must be accompanied by the prescribed application fee for each category, except that applications for licenses covering more than one fee category of special nuclear material (excluding category 1H) or source material to be used at the same location, must be accompanied by the prescribed application fee for the highest fee category. When a license or approval has expired, the application fee for each category shall be due, except for licenses covering more than one fee category of special nuclear material (excluding category 1H) or source material for use at the same location, in which case the application fee for the highest category applies.

(b) *License/approval fees*—For new licenses and approvals issued in fee categories 1A through 1H, 2A through 2E, 4A, 5B, 10A through 10F, 11 and 12, the recipient shall pay the license or approval fee for each category, as determined by the Commission in accordance with § 170.12(b), (e) and (f), except that a license covering more than one fee category of special nuclear material in categories 1A through 1G or source material in fee categories 2A through 2E must pay a license fee for the highest fee category assigned to the license.

(c) *Renewal fees*—Applications for renewal of materials licenses and approvals must be accompanied by the prescribed renewal fee for each category, except that applications for renewal of licenses and approvals in fee categories 1A through 1I, 2A through 2E, 4A, 5B, 10A through 10F, 11 and 12 must be accompanied by an application fee of $150 and the additional renewal fee shall be due upon notification by the Commission in accordance with the procedures specified in § 170.12(d).

(d) *Amendment fees*—Applications for amendments must be accompanied by the prescribed amendment fee for each category, unless the amendment is applicable to two or more fee categories in which case the amendment fee for the highest fee category would apply, except that applications for amendment of licenses in fee Categories 1A through 1I, 2A through 2E, 4A, 5B, 10A through 10F, 11, and 12 must be accompanied by an application fee of $150 with the balance due upon notification by the Commission in accordance with § 170.12(c). An application for amendment to a materials license or approval that would place the license or approval in a higher fee category or add a new fee category must be accompanied by the prescribed application fee for the new category, except for an application for amendment to increase the scope of a licensed program in fee Categories 1A through 1I, 2A through 2E, and 10A through 10F in which case the licensee shall pay the application fee of $150, and the license or approval fee for the higher fee category shall be due upon completion of the licensing review.

An application for amendment to a license or approval that would reduce the scope of a licensee's program to a lower fee category must be accompanied by the prescribed amendment fee for the lower fee category, except in fee Categories 1A through 1I, 2A through 2E, and 10A through 10F, in which case the license shall pay an application fee of $150, and the license or approval fee for the lower fee category shall be due upon completion of the licensing review. Applications to terminate licenses authorizing small materials programs, when no dismantling or decontamination procedure is required, shall not be subject to fees.

[2] Fees will not be charged for orders issued by the Commission pursuant to § 2.204 of Part 2 nor for amendments resulting specifically from such Commission orders. However, fees will be charged for approvals issued pursuant to a specific exemption provision of the Commission's regulations under Title 10 of the Code of Federal Regulations (e.g. § 30.11, 40.14, 70.14, 73.5, and any other such sections now or hereafter in effect) regardless of whether the approval is in the form of a license amendment, letter of approval, safety evaluation report, or other form. In addition to the fee shown, an applicant may be assessed an additional fee for sealed source and device evaluations as shown in Categories 9A through 9D.

[3] The amounts shown for new licenses, renewals, amendments, approvals and special projects are the maximum fees that may be assessed for an application. Fees will be determined based on the professional staff time and appropriate contractual support services expended for review of the application. For those reviews currently on file and for which fees are determined based on the full cost expended for the review, the professional staff hours expended for the review of the application up to the effective date of this rule will be determined and billings for that time will be at the professional rates established for the March 23, 1978 rule. Any professional hours expended on or after the effective date of this rule will be assessed at the FY 1981 rates shown in § 170.20 of this part. These rates will be reviewed and adjusted annually as necessary to take into consideration increased or decreased costs to the Commission. In no event will the total review costs be less than the application fee.

[4] Fees would be applicable only in those instances where a site safety and environmental review had been performed and documented by the Commission for the site at which the storage facility is to be located.

[5] Licensees paying fees under Categories 1A through 1I are not subject to fees under Categories 1J and 1K for sealed sources authorized in the same license except in those instances in which an application deals only with the sealed sources authorized by the license. Applicants for new licenses or renewal of existing licenses that cover both byproduct material and special nuclear material in sealed sources for use in gauging devices will pay the appropriate application or renewal fee for fee Category 1J only.

[6] A type A quantity is defined in § 71.4(q) of 10 CFR Part 71.

READEX FICHE

§ 170.32 Schedule of fees for health and safety, and safeguards inspections for materials licenses.

49 FR 21293

49 FR 24113

49 FR 21293

SCHEDULE OF MATERIALS LICENSE INSPECTION FEES

Category of licenses	Type of inspection [1]	Fee [2]	Maximum frequency [3]
1. *Special nuclear material:*			
A. Licenses for possession and use of five (5) kg or more of contained uranium 235 in uranium enriched to 20 pct. or more, or two (2) kg or more of uranium 233, for fuel processing and fabrication.	Routine	$120,000 [4]	Per year.
	Nonroutine	Full cost [4]	
B. Licenses for possession and use of five (5) kg or more of contained uranium 235 in uranium enriched to less than 20 pct. for fuel processing and fabrication.	Routine	$35,300 [4]	Do.
	Nonroutine	Full cost [4]	
C. Licenses for possession and use of two (2) kg or more of plutonium for fuel processing and fabrication.	Routine	$70,500 [4]	Do.
	Nonroutine	Full cost [4]	
D. Licenses for possession and use of five (5) kg or more of contained uranium 235 in unsealed form, or two (2) kg or more of uranium 233 in unsealed form for activities other than fuel processing and fabrication.	Routine	$21,200 [4]	Do.
	Nonroutine	Full cost [4]	
E. Licenses for possession and use of quantities of plutonium of two (2) kg or more in unsealed form for activities other than fuel processing and fabrication.	Routine	Full cost [4]	Do.
	Nonroutine	Full cost [4]	
F. Licenses for possession and use of 200 g but less than two (2) kg of plutonium in unsealed form.	Routine	Full cost [4]	Do.
	Nonroutine	Full cost [4]	
G. Licenses for possession and use of 350 g but less than five (5) kg of contained uranium 235 in unsealed form, or 200 g but less than two (2) kg of uranium 233 in unsealed form.	Routine	$47,200 [4]	Do.
	Nonroutine	Full cost [4]	
H. Licenses for receipt and storage of spent fuel at an independent spent fuel storage installation (ISFSI):			
1. Licenses for receipt and storage of spent fuel where the ISFSI is to be located at a new site.	Routine	$16,500 [4]	Do.
	Nonroutine	Full cost [4]	
2. Licenses for receipt and storage of spent fuel where the ISFSI is to be located at the site of an existing nuclear facility.	Routine	$16,500 [4]	Do.
	Nonroutine	Full cost [4]	
I. Licenses authorizing decommissioning, decontamination, reclamation or site restoration activities as well as licenses authorizing possession only.	Routine	Full cost [4]	
	Nonroutine	Full cost [4]	
J. Licenses for possession and use of special nuclear material in sealed sources contained in devices used in industrial measuring systems.	Routine	$210	1 per 7 years.
	Nonroutine	$640	Per inspection.
K. All other special nuclear material licenses, except licenses authorizing special nuclear material in unsealed form in combination that would constitute a critical quantity as defined in § 150.11 of this chapter for which the licensee shall pay the same rate as that for category 1G.	Routine	$320	1 per 2 years.
	Nonroutine	$370	Per inspection.
2. *Source material:*			
A. Licenses for possession and use of source material and possession of byproduct waste material from milling operations, except in in-situ leaching and heap-leaching operations, ore-buying stations, ion-exchange facilities, and the processing of ores containing source material for extraction of metals.	Routine	$2,300	1 per year.
	Nonroutine	Full cost [4]	
B. Licenses for processing and recovery of source material in in-situ leaching operations or heap-leaching operations, and possession of byproduct waste material from in-situ or heap leach operations.	Routine	$1,000	Do.
	Nonroutine	Full cost [4]	
C. Licenses for refining uranium mill concentrates to uranium hexafluoride.	Routine	$2,300	Do.
	Nonroutine	Full cost [4]	
D. Licenses for possession and use of source material in ore-buying stations, ion-exchange facilities and the processing of ores containing source material for extraction of metals other than uranium or thorium, including licenses authorizing the possession of byproduct waste material (tailings) from source material recovery operations.	Routine	$1,300	1 per year.
	Nonroutine	$650	Per inspection.
E. Licenses authorizing decommissioning, decontamination, reclamation or site restoration activities as well as licenses authorizing the possession and maintenance of a facility in a standby mode.	Routine	Full cost [4]	
	Nonroutine	Full cost [4]	
F. Licenses for possession and use of source material for shielding, except as provided for in § 170.11(a)8.	Routine	$130	1 per 7 years.
	Nonroutine	$160	Per inspection.
G. All other source material licenses	Routine	$370	1 per 7 years.
	Nonroutine	$680	Per inspection.
3. *Byproduct material:*			
A. Licenses of broad scope for possession and use of byproduct material issued pursuant to Parts 30 and 33 of this chapter for processing or manufacturing of items containing byproduct material for commercial distribution to licensees.	Routine	$850 [5]	1 per year.
	Nonroutine	$1,000 [5]	Per inspection.
B. Other licenses for possession and use of byproduct material issued pursuant to Part 30 of this chapter for processing or manufacturing of items containing byproduct material for commercial distribution to licensees.	Routine	$480 [5]	1 per year.
	Nonroutine	$900 [5]	Per inspection.
C. Licenses issued pursuant to §§ 32.72, 32.73 and/or 32.74 of Part 32 of this chapter authorizing the processing or manufacturing and distribution of radiopharmaceuticals, generators, reagent kits and/or sources and devices containing byproduct material.	Routine	$640	1 per 2 years.
	Nonroutine	$850	Per inspection.
D. Licenses and approvals issued pursuant to §§ 32.72, 32.73 and/or 32.74 of Part 32 of this chapter authorizing distribution of radiopharmaceuticals, generators, reagent kits and/or sources or devices not involving processing of byproduct material.	Routine	$370	1 per 2 years.
	Nonroutine	$530	Per inspection.
E. Licenses for possession and use of byproduct material in sealed sources for irradiation of materials in which the source is not removed from its shield (self-shielded units)	Routine	$210	1 per 3 years.
	Nonroutine	$320	Per inspection.

SCHEDULE OF MATERIALS LICENSE INSPECTION FEES—Continued

49 FR 21293

49 FR 24113

49 FR 21293

Category of licenses	Type of inspection [1]	Fee [2]	Maximum frequency [3]
F. Licenses for possession and use of less than 10,000 curies of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes.	Routine Nonroutine	$270 $580	1 per year. Per inspection.
G. Licenses for possession and use of 10,000 curies or more of byproduct material in sealed sources for irradiation of materials in which the source is exposed for irradiation purposes.	Routine Nonroutine	$480 $640	1 per year. Per inspection.
H. Licenses issued pursuant to subpart A of Part 32 of this chapter to distribute items containing byproduct material that require device review to persons exempt from the licensing requirements of Part 30 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of Part 30 of this chapter.	Routine Nonroutine	$320 $320	1 per 3 years. Per inspection.
I. Licenses issued pursuant to subpart A of Part 32 of this chapter to distribute items containing byproduct material or quantities of byproduct material that do not require device evaluation to persons exempt from the licensing requirements of Part 30 of this chapter, except specific licenses authorizing redistribution of items that have been authorized for distribution to persons exempt from the licensing requirements of Part 30 of this chapter.	Routine Nonroutine	$210 $320	1 per 3 years. Per inspection.
J. Licenses issued pursuant to subpart B of Part 32 of this chapter to distribute items containing byproduct material that require sealed source and/or device review to persons generally licensed under Parts 31 or 35 of this chapter, except specific licenses authorizing redistribution to persons generally licensed under Parts 31 or 35 of this chapter.	Routine Nonroutine	$320 $320	1 per 3 years. Per inspection.
K. Licensos issued pursuant to subpart B of Part 32 of this chapter to distribute items containing byproduct material or quantities of byproduct material that do not require sealed source and/ or device review to persons generally licensed under Part 31 or 35 of this chapter, except specific licenses authorizing redistribution to persons generally licensed under Parts 31 and 35 of this chapter.	Routine Non-routine	$320 $320	1 per 3 years. Per inspection.
L. Licenses of broad scope for possession and use of byproduct material issued pursuant to Parts 30 and 33 of this chapter for research and development that do not authorize commercial distribution.	Routine Non-routine	$420 $530	1 per 3 years. Per inspection.
M. Other licenses for possession and use of byproduct material issued pursuant to Part 30 of this chapter for research and development that do not authorize commercial distribution.	Routine Non-routine	$370 $420	1 per 3 years. Per inspection
N. Licenses that authorize services for other licensees, except for leak testing and waste disposal pickup services.	Routine Non-routine	$320 $320	1 per 7 years. Per inspection.
O. Licenses for possession and use of byproduct material issued pursuant to Part 34 of this chapter for industrial radiography operations.	Routine Non-routine	$530 [5] $1,200 [5]	1 per year. Per inspection.
P. All other specific by product material licenses, except those in categories 4A through 9D.	Routine Non-routine	$530 $530	1 per 3 years. Per inspection.
4. *Waste disposal:*			
A. Licenses specifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of commercial disposal by land burial by the licensee; or licenses authorizing contingency storage of low-level radioactive wastes at the site of nuclear power reactors; or licenses for treatment or disposal by incineration, packaging of residues, resulting from incineration, and transfer of packages to another person authorized to receive or dispose of waste material.	Routine Non-routine	Full cost [4] Full cost [4]	
B. Licenses spcifically authorizing the receipt of waste byproduct material, source material, or special nuclear material from other persons for the purpose of packaging or repackaging the material. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material.	Routine Non-routine	$1,000 $740	1 per year. Per inspection.
C. Licenses specifically authorizing the receipt of prepackaged waste byproduct material, source material, or special nuclear material from other persons. The licensee will dispose of the material by transfer to another person authorized to receive or dispose of the material.	Routine Non-routine	$740 $950	1 per 2 years. Per inspection.
5. *Well logging:*			
A. Licenses specifically authorizing use of byproduct material, source material, and/or special nuclear material for well logging, well surveys, and tracer studies other than field flooding tracer studies.	Routine Non-routine	$370 $370	1 per 3 years. Per inspection.
B. Licenses specifically authorizing use of byproduct material for field flooding tracer studies.	Routine Non-routine	$320 $480	1 per 2 years. Per inspection.
6. *Nuclear laundries:*			
A. Licenses for commercial collection and laundry of items contaminated with byproduct material, source material, or special nuclear material.	Routine Non-routine	$530 $850	1 per 3 years. Per inspection.
7. *Human use of byproduct, source, or special nuclear material:*			
A. Licenses issued pursuant to Parts 30, 40, and 70 of this chapter for human use of by product material, source material, or special nuclear material in sealed sources contained in teletherapy devices.	Routine Non-routine	$530 $850	1 per 2 years. Per inspection.

SCHEDULE OF MATERIALS LICENSE INSPECTION FEES—Continued

49 FR 21293

Category of licenses	Type of inspection [1]	Fee [4]	Maximum frequency [3]
B. Licenses of broad scope issued to medical institutions or two or more physicians pursuant to Parts 30, 33, 35, 40, and 70 of this chapter authorizing research and development, including human use of byproduct material, except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices.	Routine Non routine	$740 $800	1 per 2 years. Per inspection.
C. Other licenses issued pursuant to Parts 30, 35, 40, and 70 of this chapter for human use of byproduct material, source material, and/or special nuclear material, except licenses for byproduct material, source material, or special nuclear material in sealed sources contained in teletherapy devices.	Routine Non routine	$480 $690	1 per 3 years. Per inspection.
8 *Civil defense:*			
Licenses for possession and use of byproduct material, source material, or special nuclear material for civil defense activities.	Routine Non routine	$320 $320	1 per 7 years. Per inspection.
9 *Device, product, or sealed source safety evaluation:* Safety evaluation of devices, products or sealed sources containing byproduct, source, or special nuclear material, except reactor fuel	No inspections conducted		
10 *Transportation of radioactive material:* Evaluation of spent fuel casks, packages, and shipping containers.	do		
11. *Review of standardized spent fuel facilities*	do		
12 *Special projects*	do		

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[1] *Types of inspections*—Separate charges as shown in this schedule will be assessed for each routine and non-routine inspection which is performed, except those investigations conducted by the Office of Investigations. Non-routine inspections that result from third-party allegations will not be subject to fees.

[2] If a licensee holds more than one materials license at a single location, a fee equal to the highest fee category covered by the licenses will be assessed if the inspections are conducted at the same time, except in cases when the inspection fees are based on the full cost to conduct the inspection.

[3] The frequency shown in the schedule is the maximum number for each routine inspection for which a fee will be assessed, except for licenses in fee categories 1A through 1D, 1G and 1H for which the fee shown in the schedule will be the maximum fee assessed per year. Fees for non-routine inspections will be assessed on a per inspection basis.

[4] The amounts shown are the maximum charges that may be assessed for inspections conducted. The fees assessed will be determined based on the professional staff time required to conduct the inspection multiplied by the rates shown in § 170.20 of this part, to which any appropriate contractual support service costs incurred will be added. These rates will be reviewed and adjusted annually as necessary to take into consideration increased or decreased costs to the Commission. Where no ceiling is specified the fee assessed will be based on full cost.

[5] For a license authorizing shielded radiographic installations or manufacturing installations at more than one address, a separate fee will be assessed for inspection of each location except that if the multiple installations are inspected during a single visit, a single inspection fee will be assessed.

§ 170.41 Failure by applicant or licensee to pay prescribed fees.

In any case where the Commission finds that an applicant or a licensee has failed to pay a prescribed fee required in this part, the Commission will not process any application and may suspend or revoke any license or approval issued to the applicant or licensee or may issue an order with respect to licensed activities as the Commission determines to be appropriate or necessary in order to carry out the provisions of this part, Parts 30, 32 through 35, 40, 50, 61, 70, 71, 72, and 73 of this Chapter, and of the Act.

49 FR 21293

§ 170.51 Right to Review and Appeal of Prescribed Fees.

All debtors' requests for review of the fees assessed and appeal or disagreement with the prescribed fee (staff hours and contractual) must be submitted in accordance with the provisions of 10 CFR 15.31, "Disputed Debts," of this title.

49 FR 24113

PART 170

FEES FOR FACILITIES AND MATERIALS LICENSES AND OTHER REGULATORY SERVICES UNDER THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

STATEMENTS OF CONSIDERATION

33 FR 10923
Published 8/1/68
Effective 10/1/68

LICENSE FEES FOR FACILITY LICENSES AND MATERIALS LICENSES

A notice of proposed rule making was published by the Atomic Energy Commission in the Federal Register on March 11, 1967 (32 F.R. 3995) proposing the establishment of license fees for facility construction permits and operating licenses issued under 10 CFR Part 50 and for specific byproduct, source, and special nuclear material licenses issued under 10 CFR Parts 30, 40, and 70. The fees were set out in a proposed new Part 170. Amendments to Parts 30, 40, 50, and 70 to reflect proposed application filing fee requirements also were proposed.

The Commission's decision to propose fees for licenses was made in accordance with Title V of the Independent Offices Appropriation Act of 1952 (65 Stat. 290; 31 U.S.C. 483a) which states:

> It is the sense of the Congress that any work, service, publication, report, document, benefit, privilege, authority, use, franchise, license, permit, certificate, registration, or similar thing of value or utility performed, furnished, provided, granted, prepared, or issued by any Federal agency * * * to or for any person (including groups, associations, organizations, partnerships, corporations, or businesses), except those engaged in the transaction of official business of the Government, shall be self-sustaining to the full extent possible, and the head of each Federal agency is authorized by regulation * * * to prescribe therefor such fee, charge, or price, if any, as he shall determine, in case none exists, or redetermine, in case of an existing one, to be fair and equitable taking into consideration direct and indirect cost to the Government, value to the recipient, public policy or interest served, and other pertinent facts * * *

General policies for developing an equitable and uniform system of charges in implementation of the above-cited provisions of the Independent Offices Appropriation Act of 1952, have been set forth by the Bureau of the Budget in Circular No. A-25 and in a memorandum dated February 15, 1965, directed to heads of Federal agencies.

The notice of proposed rule making allowed 60 days for comment by interested persons. By notice published in the Federal Register on April 18, 1967 (32 F.R. 6099) the time for filing comments was extended to July 9, 1967. Many comments have been received.

The amendments which follow have been adopted by the Commission after careful consideration of those comments and further Commission study. The revised fee schedule eliminates most fees for materials licenses included in the previously proposed amendments, including those for medical uses. The Commission is continuing to study the matter of fees for materials licenses.

The categories of materials licenses which will be subject to application fees and annual fees are:

a. Licenses for byproduct material of 100,000 curies or more in sealed sources used for irradiation of materials;

b. Licenses for special nuclear material in quantities sufficient to form a critical mass, except for licenses for plutonium-beryllium neutron sources; and

c. Waste disposal licenses specifically authorizing the receipt of waste radioactive materials for the purpose of commercial disposal by land or sea burial. (This category of fees would not be applicable to licenses which authorize collection, processing, storage, and transfer of wastes to another person for land or sea burial to be performed by the transferee.)

The exception of licenses for special nuclear material in plutonium-beryllium neutron sources, which was not included in the proposed rule, is based upon the lack of criticality considerations involved in the licensing of such sources.

The schedule of fees for licenses for production and utilization facilities in § 170.21 of Part 170 eliminates the broad categorization of reactors set forth in notice of proposed rule making published on March 11, 1967. Fees for power reactors will be assessed on the basis of the number of megawatts of rated power (sliding scale) of the facility involved. Single fees for other facilities are established. The Commission considers that such a basis for assessment is more equitable than the grouping basis set forth in the notice of proposed rule making.

Proposed § 170.11(a)(4) has been revised to exempt from licensing fees licenses for materials or facilities other than power reactors issued to nonprofit educational institutions, used for training, teaching, or medical purposes. Many licenses for facilities or materials of this type would have fallen within the exemption of § 170.11(a)(4) as set forth in the proposed rule for licenses issued to nonprofit educational institutions holding an AEC research assistance contract or loan agreement. The present exemption, however, applies to a nonprofit educational institution which is licensed to operate a facility, other than a power reactor, for teaching, training, or medical purposes or to use materials for such purposes, but does not have a loan agreement or university reactor assistance contract with the Commission.

A new § 170.11(a)(5) has been added which specifically exempts Government agencies from licensing fees.

A number of editorial changes of a clarifying nature also have been made.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Parts 30, 40, 50, and 70, and a new 10 CFR Part 170 are published as a document subject to codification, to be effective 60 days after publication in the Federal Register. The Commission invites all interested persons who desire to submit written comments or suggestions in connection with the amendments and regulation to send them to the Secretary, U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Chief, Public Proceedings Branch, within 60 days after publication of this notice in the Federal Register. Consideration will be given such submission with the view to possible amendments. Copies of comments received may be examined at the Commission's Public Document Room at 1717 H Street NW., Washington, D.C.

33 FR 11587
Published 8/15/68
Effective 8/15/68

Correction

In F.R. Doc. 68-9160 appearing at page

10923 of the issue for Thursday, August 1, 1968, make the following changes:

36 FR 145
Published 1/6/71
Effective 2/5/71

FEES FOR FACILITIES AND MATERIALS LICENSES

On August 4, 1970, the Atomic Energy Commission published in the FEDERAL REGISTER (35 F.R. 12412) proposed amendments to 10 CFR Parts 30, 40, 70, and 170 of its regulations which would revise fees charged for facilities and materials licenses. Interested persons were invited to submit written comments and suggestions for consideration within 30 days after publication of the notice of proposed rule making in the FEDERAL REGISTER. Subsequently, the time for submitting comments was extended for an additional 45 days to October 18, 1970.

The decision to publish the notice of proposed rule making was based on the Bureau of the Budget Circular No. A-25 and Title V of the Independent Offices Appropriation Act of 1952 (65 Stat. 290; 31 U.S.C. 483a), which states:

> It is the sense of the Congress that any work, service, publication, report, document, benefit, privilege, authority, use, franchise, license, permit, certificate, registration, or similar thing of value or utility performed, furnished, provided, granted, prepared, or issued by any Federal agency * * * to or for any person (including groups, associations, organizations, partnerships, corporations, or businesses), except those engaged in the transaction of official business of the Government shall be self-sustaining to the fullest extent possible, and the head of each Federal agency is authorized by regulation * * * to prescribe therefor such fee, charge, or price, if any, as he shall determine, in case none exists, or redetermine, in case of an existing one, to be fair and equitable taking into consideration direct and indirect cost to the Government, value to the recipient, public policy or interest served, and other pertinent facts * * *

The revised fees for facilities and materials licenses are based on the principle of full cost recovery. Only those regulatory costs associated with the processing of licenses were used. No costs related to compliance, rule making, development of standards, codes, criteria, special nuclear material safeguards, and administration of the State relations program were included. Costs associated with licenses exempt from fees were identified and excluded. The Commission has also sought to achieve simplicity of computation and ease in the administration of the fee system in the establishment of the fee schedule. Where feasible, groupings have been made of different kinds of licenses and a common fee established for the entire grouping in order to avoid undue complexity.

After consideration of the comments received and other factors involved, the Commission has adopted the proposed amendments with certain modifications discussed below

Several commentators maintained that, where an operating license fee has been paid for the first reactor at multiple unit, single-site power stations, similar additional units at these stations should be subject to a reduced operating license fee where they are subject to concurrent review. To reflect anticipated reduced effort in such situations, the fee schedule in § 170.21 of the proposed amendment has been modified to reduce the operating license fee for follow-on units at multiple unit, single-site power stations that are the same design as the first unit and are subject to concurrent licensing review. To maintain the principle of full cost recovery, the revenue that will be lost by reducing the operating license fee for these follow-on units is recovered by increasing the fee itself. Section 170.21 has also been modified to establish an upper limit power level for computation of construction permit fees, operating license fees, and annual fees for power reactors. (Minor modifications have also been made to the description of the fee to be paid for construction permits issued for multiple unit, single-site power stations to make the language consistent with the revised language for operating licenses.)

Section 170.11(a) has been amended to exempt from license fees uranium used in licensed devices and containers as shielding material.

Section 170.12(c) has been revised to clarify the due date for payment of license fees. Payment of prescribed fees for those licenses that have not been subject to fees prior to the amendments to Part 170 herein will be required within 30 days after the effective date. In the case of licenses that have been subject to fees prior to promulgation of these amendments, the licensee will be billed at the revised rate 1 year from the due date of the last fee payment.

The fee schedule in § 170.31 of the proposed amendment has been modified to more clearly identify those licensed activities that were included in the proposed fee Category 3A. This has been accomplished by establishing a category for licenses authorizing distribution of generally licensed items or quantities, and a category for licenses authorizing distribution of exempt items or quantities. Fees are required for each of these licensed activities because each involves distinct licensing effort.

One commentator maintained that where the reviews of applications for construction permits for reactors at multiple unit, single-site power stations are conducted concurrently but, because of some technicality the permits are not issued concurrently, applicants should not have to pay a separate construction permit fee for the delayed unit. It was not the Commission's intent to charge a separate fee for such units that are delayed solely because of technicalities unrelated to health and safety.

The Commission is required in accordance with BoB Circular No. A-25 to keep the matter of license fees under continuing review and, if costs of licensing services change, it may be expected that the fee schedule will be adjusted.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Parts 30, 40, 70, and 170, are published as a document subject to codification to be effective 30 days after publication in the FEDERAL REGISTER.

36 FR 18173
Published 9/10/71
Effective 9/10/71

Exemptions and Payment of Fees

On March 16, 1971, the Atomic Energy Commission published in the FEDERAL REGISTER (36 F.R. 4978) a notice of rule making which amended § 170.12(c) of 10 CFR Part 170 to extend the due date for payment of license fees to sixty (60) days after the effective date of the amendments to Part 170 published on January 6, 1971. The notice also provided that under certain circumstances the applicable fee would be waived, or would be assessed in an amount applicable to the license as amended.

Since the Commission has continued to receive a number of applications for licensing actions which, if granted, would affect liability for or the amount of license fees, the Commission has amended § 170.12(c) to extend the license fee due date for the fee period February 5, 1971–February 5, 1972, to October 15, 1971. If an application is filed on or before October 15, 1971, to cancel a license, the Commission will waive the applicable fee upon cancellation of the license. If an application is filed on or before October 15, 1971, to amend a license and the Commission acts favorably upon the application, the fee will be assessed in the amount applicable to the license as amended.

Section 170.41 of Part 170 provides that where the Commission finds that a licensee has failed to pay the applicable annual fee, the Commission may suspend or revoke the license or may issue such order with respect to licensed activities as the Commission determines to be appropriate or necessary in order to carry out the provisions of its regulations in Parts 30, 40, 50, 70, and 170, and of the Atomic Energy Act, as amended.

Paragraph 170.11(b) provides that "the Commission may, upon application by an interested person, or upon its own initiative, grant such exemptions from the requirements of this part as it determines are authorized by law and are otherwise in the public interest." This section has been amended to set forth examples of licensed activities that would be favorably considered by the Commission for exemption from license fees.

Because these amendments relate solely to clarification and minor procedural matters, the Commission has found that good cause exists for omitting notice of proposed rule making and public procedure thereon as unnecessary. Since the amendment relieves from restrictions under regulations currently in effect, it will become effective without the customary 30-day notice.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 551 and 552 of title V of the United States Code, the following amendments of Title 10, Chapter I, Code of Federal Regulations, Part 170, are published as a document subject to codification to be effective upon publication in the FEDERAL REGISTER (9-10-71):

37 FR 24028
Published 11/11/72
Effective 12/11/72

Removal of Exemption From Fees for Licenses Issued to Government Agencies for Nuclear Power Plants

On October 4, 1972, the Atomic Energy Commission published in the FEDERAL REGISTER (37 F.R. 20871) a proposed amendment to its regulations in 10 CFR Part 170 to remove the exemption from payment of fees for a construction permit or license applied for by, or issued to, a Government agency for a reactor producing power on a commercial basis. Interested persons were invited to submit written comments and suggestions for consideration within 15 days after publication of the notice of proposed rule making in the FEDERAL REGISTER.

No comments were received. The Commission has adopted the amendment in the form set forth in the notice of proposed rule making.

On June 16, 1972, legislation was enacted amending the Atomic Energy Act by adding a new subsection 161.w., which authorized the Commission to:

> w. Prescribe and collect from any other Government agency, which applies for or is issued a license for a utilization facility designed to produce electrical or heat energy pursuant to section 103 or 104b, any fee, charge, or price which it may require, in accordance with the provisions of section 483a of title 31 of the United States Code or any other law, of applicants for, or holders of, such licenses.

The amendment which follows implements the new statutory authority by amending § 170.11(a)(5) of Part 170 to remove the exemption for Government agencies which apply for or are issued a license to operate a nuclear reactor producing power for sale.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendment to Title 10, Chapter 1, Code of Federal Regulations, Part 170, is published as a document subject to codification to be effective thirty (30) days after publication in the FEDERAL REGISTER.

38 FR 18443
Published 7/11/73
Effective 8/10/73

Revised Fees

On February 12, 1973, the Atomic Energy Commission published in the FEDERAL REGISTER (38 FR 4272) proposed amendments to its regulations in 10 CFR Part 170 which would change fees charged for facilities and materials licenses. Interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendments by April 13, 1973.

The fees set out in the notice of proposed rulemaking covered costs associated with the Commission's licensing and health and safety compliance and inspection program, taking into account additional costs incurred by the implementation of the National Environmental Policy Act of 1969 and by the antitrust review of nuclear power reactor applications. Costs related to rulemaking, development of standards, codes, criteria, and regulatory guides, safeguards activities and administration of the Agreement States program were not included in the proposed fee schedules. Costs associated with licenses exempt from fees were identified and excluded. The notice proposed to eliminate the exemption from payment of fees for licenses authorizing: (1) Possession, but not operation, of production or utilization facilities, (2) human use of byproduct material, source material, or special nuclear material, and (3) use of byproduct material, source material, or special nuclear material for civil defense purposes only.

The notice also proposed separate fee categories for certain types of licenses to provide a greater degree of equity in assessing fees. New fee categories include licenses for: (1) Byproduct material for processing or manufacturing quantities or items for commercial distribution where no product safety evaluation is required, (2) byproduct material for industrial radiography operations limited to one location, (3) byproduct material in quantities of less than 10,000 curies for irradiation of materials, (4) waste disposal where burial is not authorized, (5) distribution of exempt quantities of byproduct material, (6) distribution of exempt timepieces, hands and dials, containing hydrogen 3 or promethium 147, (7) byproduct material for research and development, and (8) uranium mills and uranium conversion plants.

After consideration of the comments received and other factors involved, the Commission has adopted the proposed amendments with certain modifications discussed below.[1]

Paragraph 170.12(c) has been revised to clarify the due date for payment of license fees. Payment of prescribed fees for those licenses that have not been subject to fees prior to the amendments to Part 170 herein will be required within 30 days after the effective date. In the case of licenses that have been subject to fees prior to promulgation of these amendments, the next annual fee will be payable one year from the due date of the last fee payment and annually thereafter. In the case of licenses issued after the promulgation of these amendments, annual fees are payable one year following the date of issuance and annually thereafter.

Footnote 4 has been added to § 170.31 to provide for waiver of the annual fee where an application for license cancellation has been filed prior to the due date of the annual fee, and for reduction of the annual fee where an application to reduce the scope of the license has been filed prior to the due date of the annual fee. The fees will be affected only when the application contains adequate information to enable the Commission to complete the requested action.

Footnote 5 has been added to § 170.31 so that persons possessing special nuclear material in the form of sealed sources, in addition to other physical forms of special nuclear material, are not required to pay an additional fee under Category 1E when they have paid a fee under Categories 1A through 1D.

Fee Category 5A has been modified to make clear that it is intended to cover licenses for tracer studies and for all well logging and well surveys.

In addition, minor editorial revisions have been made in fee Categories 1D, 1E, 2C, 3I, 3K, and 3L.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 170, are published as a document subject to codification to be effective on August 10, 1973.

38 FR 30251
Published 11/2/73
Effective 12/3/73

Standardization of Design; Licenses to Manufacture Nuclear Power Reactors; Miscellaneous Amendments

See Part 2 Statements of Consideration.

40 FR 8774
Published 3/3/75
Effective 3/3/75

Energy Reorganization Act; Revisions to Chapter 1 to Reflect Organizational and Procedural Changes

See Part 2 Statements of Consideration.

43 FR 7210
Published 2/21/78
Effective 3/23/78

PART 170—FEES FOR FACILITIES AND MATERIALS LICENSES AND OTHER REGULATORY SERVICES UNDER THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

Revision of Fee Schedule

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The rule which follows revises the Commission's schedule of fees for applications, permits, and licenses. It establishes fees for requests filed by vendors and architect-engineers for standardized reference design approvals; amendments; renewals; routine inspections; special projects or reviews; approval of spent fuel casks, and shipping containers; and approval of sealed sources, and devices containing or utilizing byproduct, source, or special nuclear material. The fees are based on the Commission's costs of providing services in accordance with guidelines published on May 2, 1977.

DATE: This amendment will be effective March 23, 1978.

FOR FURTHER INFORMATION CONTACT:

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[1] Commissioner William O. Doub's approval is based on the understanding that there is a legal question as to the scope of an agency's authority to impose certain fees under Title V of the Independent Offices Appropriation Act of 1952 (31 U.S.C. 483a), but that the Commission's imposition of the revised fees is consistent with Office of Management and Budget guidance in Circular A-25 pending resolution of the legal question in litigation now before the U.S. Supreme Court, whose decision mav not be handed down until next spring.

Mr. W. O. Miller, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, 301-492-7225.

SUPPLEMENTARY INFORMATION:

BACKGROUND

On May 2, 1977, the U.S. Nuclear Regulatory Commission published in the FEDERAL REGISTER (42 FR 22149-22168) for public comment proposed amendments to its regulations in 10 CFR Part 170 which would revise its schedule of fees for facilities and materials applications and licenses. It would establish fees for (1) requests filed by vendors and architect-engineers for standardized design approvals; (2) license amendments and renewals; (3) routine inspections; (4) special projects and reviews; (5) requests for approval of spent fuel casks and shipping containers; and (6) requests for approval of sealed sources and devices containing or utilizing byproduct, source, or special nuclear material. The notice invited interested persons to submit written comments for consideration in connection with the proposed amendments on or before June 1, 1977. Upon request, the Commission extended the comment period for an additional 30 days to July 1, 1977.

On May 12, 1952, the Commission held a public meeting in Bethesda, Md. Data used in developing the proposed schedule of fees were discussed at this meeting and copies of these data were provided to all interested persons.

The Commission has placed in its Public Document Room at 1717 "H" Street, Washington, D.C., all manpower, cost data, and more than 200 other documents used in developing the schedule of fees. In addition, computer printouts of manpower usage and workpapers have been made available for inspection at the Commission's office at 7920 Norfolk Avenue, Bethesda, Md 20014.

The May 2, 1977, notice set forth the Commission's guidelines for fees under the Independent Offices Appropriation Act of 1952, 31 U.S.C. 483a. These guidelines are based on the Supreme Court decisions in *National Cable Television Association, Inc.* v. *United States*, 415 U.S. 336 (1974), and *Federal Power Commission* v. *New England Power Company*, 415 U.S. 345 (1974), and further guidance provided by the United States Court of Appeals for the District of Columbia Circuit in *National Cable Television Association, Inc.* v. *Federal Communications Commission*, 554 F. 2d 1094 (1976); *National Association of Broadcasters* v. *Federal Communications Commission*, 554 F. 2d 1118 (1976); *Electronic Industries Association* v. *Federal Communications Commission*, 554 F. 2d 1109 (1976); and *Capital Cities Communication, Inc.* v. *Federal Communications Commission*, 554 F. 2d 1135 (1976).

In summary, the guidelines provide that:

1. Fees may be assessed to persons who are identifiable recipients of "special benefits" conferred by specifically identified activities of the NRC. The term "special benefits" includes services rendered at the request of a recipient and all services necessary for the issuance of a required permit, license, approval, or amendment, or other services necessary to assist a recipient in complying with statutory obligations or obligations under the Commission's regulations;
2. All direct and indirect costs incurred by the NRC in providing special benefits may be recovered by fees;
3. It is not necessary to allocate costs in proportion to the degree of public or private benefit resulting from conferring a special benefit on a recipient;
4. Where the identification of the specific beneficiary of NRC activity is obscure, the cost of the activity may not be included in the cost basis for fees;
5. A fee shall not exceed the sum on the average of the direct and indirect costs which the NRC incurs in furnishing the services for a member of the class of recipients for which the fee is assessed; and
6. Calculation of agency costs shall be performed as accurately as is reasonable and practical, and shall be based on specific expenses identified to the smallest practical unit associated with the rendering of the type of agency service to the particular class of recipients.

These guidelines determine whether or not the Commission may charge a fee for a particular service and what the maximum fee may be. In keeping with the sense of Congress expressed in the Independent Offices Appropriation Act of 1952 that agency activities performed on behalf of persons the agency serves "shall be self-sustaining to the full extent possible," the Commission is generally obliged to impose the fees allowed by these guidelines where it is fair and equitable to do so. The Commission recognizes that in exceptional circumstances fairness may require that a fee be set at a level below the cost of rendering the service. However, the Commission's discretion to reduce fees for certain service categories is limited by the IOAA mandate and by the requirement that a consistent and fundamentally fair fee structure must accord equal treatment to similarly situated recipients of agency services.

The fees in this notice are based on these Commission guidelines. Several changes have been made, however, in the schedule of fees contained in the May 2, 1977 notice in response to comments received from the public. Copies of the comments received by the Commission have been placed in our Public Document Room.

The May 2, 1977, notice contained a description of the functional activities of the various Commission offices and identified the special services for which costs were included in fees and those activities for which costs were excluded from fee recovery. It also described the method of fee computation; discussed the costs of major NRC offices; and estimated the amount of fees the Commission would collect under the proposed fee schedule.

In accordance with Commission instructions, the staff analyzed the functions performed and services rendered by each NRC office to determine which activities, if any, provided special benefit to applicants, licensees, or permittees. After each NRC service was properly categorized, contractual services analyzed, and the professional manpower figures obtained for each fee category, the cost per man-year to maintain a professional employee (professional man-year rate) was developed for the Offices of Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, and Inspection and Enforcement, and the Advisory Committee on Reactor Safeguards, Atomic Safety and Licensing Board Panel and the Atomic Safety and Licensing Appeal Panel. These rates were developed by using (1) each office's costs of personnel compensation (salaries), personnel benefits, administrative support and travel, (2) the number of professional employees who were identified as working on licensing, inspection, and other special projects (excluding administrative, supervisory and management direction employees), and (3) the overhead support provided by the Program Direction and Administration and the Program Technical Support offices to the Offices of Nuclear Reactor Regulation, Nuclear Material Safety and Safeguards, and Inspection and Enforcement, and the Advisory Committee on Reactor Safeguards, Atomic Safety and Licensing Board Panel, and Atomic Safety and Licensing Appeal Panel (operating offices). To determine overhead support, the Program Direction and Administration and the Program Technical Support offices were analyzed to identify what service, if any, they provided to the operating offices.

After the analysis, the manpower and other costs of the Offices of the Secretary, Controller, Management Information and Program Control, Administration, Executive Legal Director, and the Executive Director for Operations, were allocated as overhead support to other NRC offices. Each of these offices, with the exception of the Offices of Controller and Administration, analyzed its operations in terms of the support it provides to the various operating offices. Based on this analysis, each office allocated its effort on a percentage basis. This overhead was applied to the total cost of the office receiving the support. The costs for the Offices of Administration and Controller were distributed to all of the NRC offices on a pro-rata basis based on distribution of manpower. This procedure was followed for the Offices of the Controller and Administration because their support is directly correlated with the needs of the various NRC offices. Program Direction and Administration and the Program Technical Support offices excluded from fees are the Office of the Commissioners, General Counsel, Policy Evaluation, Inspector and Auditor, Congressional Affairs, Public Affairs, Planning and Analysis, Equal Employment Opportunity, and International and State Programs.

COMMENTS

Several comments contended that the proposed fee schedule was inconsistent with the guidelines established by the United States Supreme Court in *National Cable Television Association, Inc.* v. *United States*, 415 U.S. 336 (1974), and *Federal Power Commission* v. *New England Power Company*, 415 U.S. 345 (1974). In particular, they argued that the activities for which the Commission contemplated charging fees benefited not only the licensee, but also the public and that the Commission may not assess the licensee for those services which benefited the public.

The United States Court of Appeals for the District of Columbia Circuit rejected this argument in *Electronic Industries Association* v. *F.C.C.*, 554 F. 2d 1109 (1976). The court explicitly endorsed a Federal Communications Commission assertion that: "The fact that the general public may also benefit by Commission authorization of such activities, in that the activities may directly or indirectly provide a service to the public, does not limit the Commission's authority to charge a fee to the recipients of the services that will allow those services provided by the Commission to be operated on a self-sustaining basis as mandated by Title V (of the IOAA)," 554 F. 2d at 1114, fn. 12.

Several comments cited a Federal district court decision, *Public Service Company of Colorado, et al.* v. *Andrus, et al.*, No. 76-F-48 (D. Col. May 31, 1977) as authority for the contrary proposition that an agency may not recover through fees the cost of a service which benefits the public as well as the licensee. The case held that agency costs associated with the implementation of the National Environmental Policy Act (NEPA) cannot be collected from licensees under the Independent Offices Appropriation Act because NEPA primarily benefits the public. The Commission views this result as inconsistent with the recent decisions of the United States Court of Appeals for the District of Columbia Circuit, cited above. As the quotation in the previous paragraph makes clear, the reasoning of these decisions supports inclusion of the costs associated with the implementation of NEPA and the Commission finds these decisions to be the better view. Accordingly, the Commission has not changed the guidelines upon which the fee schedule is based.

Many comment letters focused on the Commission's proposal to charge fees for routine inspections, contending for the most part that fees should not be charged for the conduct of routine inspections since the benefits of those inspections accrue solely to the public and because inspections provide no "special benefit" to the licensees. Some argued that inspections are (1) not part of the process of obtaining a license, (2) not services requested by licensees, and (3) not justified, because inspections are conducted solely to enable the Commission to meet its statutory obligation of assuring that licensed activities are conducted in a manner so as to protect the public's health and safety. The Commission believes these arguments overlook the essential point that continuing assurance that the licensed activity is being properly conducted is a necessary condition under the Atomic Energy Act for a license to remain in effect. Routine inspections give the licensee the opportunity to provide this assurance. Thus, the conduct of routine inspections comes under the Commission's guidelines for assessing fees to persons who are identifiable recipients of services which are necessary to assist a recipient in complying with statutory obligations or obligations under the Commission's regulations.

Several persons commented that the Commission was attempting in the proposed fee schedule to recover the full cost of licensing and inspection services and other persons contended that the schedule was designed to recover the full costs of regulatory services. It was suggested that this perceived policy exceeded the IOAA mandate to charge only for specific services rendered to identifiable beneficiaries. The fact is that if the revised schedule had been in effect in fiscal year 1977, the Commission would have recovered approximately 12 percent of its fiscal year 1977 budget.

After analysis of benefits and beneficiaries, those NRC activities and services that have been determined to be excludable from cost recovery are:

1. *Research.*—This covers all NRC research activities including the regulatory confirmatory assessment program ($85 million in costs) which deals specifically with NRC decisions for the safe and environmentally compatible operation and protection of nuclear facilities and materials. The research program develops and analyzes technical information on reactor safety, safeguards, and environmental protection, as a basis for licensing and other decisions in the regulatory process. These activities relate directly to the licensing of reactors and other facilities; however, because these activities are generic in nature or because it would be difficult to allocate the costs of research between various recipients of the benefits, the total budgeted cost of research has been excluded ($127.5 million in fiscal year 1977).

2. *Generic licensing activities.*—The Commission reviews many safety issues on a generic basis, i.e., issues not readily identified with a specific application or group of in-house applications. This means that a significant portion of the NRC professional staff is reviewing licensing or inspection matters for which no costs were included in fees because there is no immediate identifiable recipient. In fiscal year 1977, the budgeted costs of these services were estimated to be $30.6 million.

3. *Standards development.*—These activities cover site safety and environmental impact standards for nuclear facilities; safety engineering standards for design, procurement, constuction, testing, operation and decommissioning of nuclear power plants; fuel cycle facility safety engineering standards; safeguards standards for physical protection and control of nuclear materials and facilities; standards for safe transport of radioactive materials in medical, industrial and consumer products; and radiation protection standards. These standards are supportive of the NRC licensing and inspection programs. None of the budgeted costs of these services ($16.2 million) are recovered by fees since they are not limited to specific applications or classes of applications.

4. *Safeguards.*—A significant part of the NRC safeguards effort is concerned with the development of contingency plans to deal with threats, thefts, and sabotage; assessment studies; and the monitoring, testing, and upgrading of safeguards systems. These activities, which were budgeted at $7.1 million for fiscal year 1977, have been excluded from recovery because they are generic in nature. The remaining safeguards effort is concerned with processing license applications and inspection casework and, therefore, provides benefit to the applicant and licensee. The $5.8 million in budgeted costs for these programs were included for fee consideration.

5. *Contested applications.*—Part 50 applications for facilities may be subjected to contested hearings and appeals under the Commission's regulations. As a matter of policy, the Commission has determined that to the

extent the costs of contested hearings exceed those of uncontested hearings, these costs would not be recovered through fees. The Commission's budget costs in fiscal year 1977 for contested hearings are estimated at $5.6 million.

6. *International and State Programs.*—These programs are responsible for the development and implementation of plans, policies and programs for the coordination and integration of Federal and State regulation of nuclear materials and facilities, and for the negotiation and implementation of regulatory and safety programs and information exchange with other countries. As a matter of Commission policy, their budgeted costs of $2.9 million are excluded from fees.

7. *Non-routine inspections.*—Nonroutine inspections are concerned with incidents, investigations, or allegations involving licensed materials or facilities; reports that have been made alleging unusual occurrences pursuant to Part 19; management-audits; and enforcement activities. These activities, which are unscheduled, have not been included in fees based on Commission policy. Budgeted costs for this program are $1.6 million.

8. *Establishment of overall policy, administration and management of NRC by the Office of the Commissioners.*—Since it is not practical to isolate and allocate the services of this office to individual activities, the budgeted costs of this office ($1.3 million) have not been used in fee computation.

9. Services for policy evaluation and plans and analysis are not directly concerned with the review of applications or routine inspection activities and their budgeted costs totaling $1.9 million have been excluded from fees.

10. The activities of the Offices of Inspector and Auditor ($1 million), Congressional Affairs ($0.2 million), Public Affairs ($0.7 million), and Equal Employment Opportunity ($0.2 million), have been excluded from cost recovery because the activities are not concerned with the review of applications or routine inspections and appear to constitute an independent public benefit.

11. The legal service provided by the Office of the General Counsel and its services in contested hearings and litigation is excluded from fees because the services, except those involved in contested hearings, are not directly concerned with the licensing and inspection process. Commission policy provides that the services of the Office of the General Counsel in contested hearings are to be excluded from fees. Total exclusion is $0.6 million.

12. All activities related to government owned reactors were excluded. Budgeted costs of $0.1 million were excluded.

13. The costs of the facility indemnity program were excluded since these costs are recoverable under another program. Budgeted costs of $0.2 million were excluded.

14. The costs of providing services under the Freedom of Information Act, Privacy Act, and the Federal Reports Act, have been excluded from fees. Budgeted costs of $0.5 million were excluded.

15. The costs of special projects in the Office of the Executive Director for Operations were excluded since they are not directly concerned with licensing or inspection services. Budgeted costs of $0.4 million were excluded.

16. Capital equipment budgeted costs of $0.8 million, which cover inspection vans, radiation monitoring equipment, instrumentation, reproduction equipment, etc., were excluded from fees.

Based on the Commission's guidelines and a detailed analysis of the regulatory services provided by NRC, $199.4 million, or approximately 80 percent of the Commission's budgeted regulatory costs, were excluded from consideration for recovery because the services do not provide special benefit to applicants or licensees, because the recipient of the benefit is not readily identifiable, or because the program is conducted on behalf of the public. Those regulatory services which provide special benefit to applicants and licensees include:

1. The processing and reviewing of applications or requests for construction permits, operating licenses, manufacturing licenses, materials licenses, amendments, renewals, approval of standardized reference designs, special projects (such as early site review, topical report reviews, and amendments or renewal of standardized reference design approvals), approval of packages and containers for shipping radioactive materials, and evaluation of sealed sources and devices containing or utilizing radioactive material. The NRC's budgeted costs of providing these services are $30.9 million.

These services are provided by the reactor licensing staff ($22.9 million); materials and non-reactor facilities licensing staff ($6.4 million); the Advisory Committee on Reactor Safeguards ($1.3 million); and the Atomic Safety and Licensing Board Panel and Atomic Safety and Licensing Appeal Panel in their licensing effort ($0.3 million).

2. Routine health, safety, safeguards, and quality assurance inspections. The NRC's budgeted costs of providing these services are $22.3 million.

The costs of licensing and inspection include the costs of professional manpower and their overhead and support costs.

NRC services which provide special benefit to applicants and licensees and that meet the criteria of the Commission guidelines for fees were approximately $53.2 million in fiscal year 1977. Under this revised schedule, it is anticipated that the Commission would recover approximately $30 million of its Fiscal Year 1978 budget of $281.4 million and $20 million of the Fiscal Year 1979 budget. The reasons for the small percentage of recovery in relation to the NRC budget are threefold: (1) Approximately 80 percent of the regulatory services have been determined to fall outside the guidelines for fees, (2) specific activities such as the review of an application for a construction permit for a power reactor, extend over a period greater than one year, and (3) the revised schedule would not be in effect for the entire fiscal year 1978.

One person commented that overhead or support costs should be excluded from fees since such activities provide no benefit to applicants and licensees. It is common practice in business and industry to include in a fee or charge for consultation, service or product, a portion of management, space, communications, and administrative costs. It is reasonable to include in the fee base that portion of overhead costs incurred in support of professional staff work on applications, licenses, and inspections.

Several vendors and architect-engineers who have filed standardized reference designs for power reactors for review and approval contend that the schedule of fees fails to provide an incentive for the industry to standardize and, in fact, may serve as a disincentive. They note that the schedule of fees does not show a savings in the effort required to review and approve a standard design or plant when compared to the effort required for an application for a power plant that embodies a custom design nuclear steam supply system and balance of plant. The primary difference in review requirements for custom and standard designs arises from the treatment of interfaces between the standardized portions and the custom portion of the plant. In the custom plant there are no interface problems between the nuclear steam supply system and the balance of the plant because the unit is reviewed as a complete package. In the standard plant the nuclear steam supply system design must be evaluated and described so that it can be referenced by any one of several different balance-of-plant systems. This means that all portions of the nuclear steam supply system that must be met by the balance of the plant must be pulled out and identified for future reference and compatibility.

The standard reference design also differs in that more complete preliminary design information is required. Because of these situations the manpower is reflected in higher review costs for standard designs at the construction permit stage. Since standardization in the nuclear power industry is in the developing stages, it is reasonable to assume that the NRC staff may have been in the upper part of a learning curve with respect to the review and evaluation of such applications when the manpower averages were developed for these facilities. The Commission believes that as standardization increases, the review time and, hence, the accompanying fees will decrease. It is also expected that, as experience is gained by the industry, the NRC effort required to process applications for standard designs and standardized plants will decrease because interface problems will be resolved, and custom and standard plant designs will approach each other with regard to completeness of preliminary design. Because of the changing state in standardization, and reactor licensing, the charges for all construction permits and operating licenses; facility manufacturing licenses; and for review of Preliminary Design Approvals and Final Design Approvals (including amendments and renewals thereto) will be based on the expenditures for professional manpower and appropriate support services required to process the specific application. The respective fees will be determined when the review of the project is completed.

It is important to realize that, in the standardization of nuclear facilities, the significant benefits to industry would be predictability, repeated use of a design, and commonality in analysis, procedures, and purchase specifications. Additionally, as these benefits develop, licensing time and costs should decrease.

It should be noted that, with respect to the licensing of a standard nuclear power plant, much of the effort required to process the application is independent of the standardization option. The effort related to environmental, antitrust, and safeguards reviews and considerations as well as quality assurance inspections and evaluations, considerations of the Advisory Committee on Reactor Safeguards, and hearings, are independent of the type of plant or design.

It was observed by one person that the proposed schedule of facility fees did not contain a schedule of fees for renewal of licenses for test and research reactors. It is intended that renewals of such licenses will be handled by amendments under the appropriate class in the license amendment schedule of § 170.22, and that a separate fee schedule is unnecessary.

It was suggested that the six classes of amendment fees for facility permits, licenses, or approvals, be revised for clarification purposes. The licensing staff has reviewed the classes of amendments and made revisions to the class definitions so that they would be more specific. The schedule in § 170.22 has also been revised to provide that, at the time an application for amendment or other required approval is filed, the applicant shall determine the class of amendment or approval being filed, state the basis for the classification, and remit the corresponding fee with the application. The Commission will evaluate the application or request to determine accuracy of the fee classification and inform the applicant if reclassification is required. Where a reclassification results in overpayment by the applicant, a refund will be made. If the reclassification results in placing the application into a higher fee class, the applicant will be billed for the additional charge. The Commission's processing of an application or request by consolidation or by separation into parts will not result in increased charges. The processing of an application for an amendment or approval will not be delayed pending resolution of proper fee payment: *Provided,* The applicant has classified the application and remitted what it believes to be the correct fee.

Proposed § 170.22 provided that amendments or approvals resulting from Commission Orders issued pursuant to 10 CFR 2.204 of this chapter, or amendments resulting in an initial increase in power to 100 percent of the initial design power, are exempt from fees. The section was amended to provide that, in addition, the Commission will consider exempting from fees those applications for amendments in Classes I, II, and III, when the application results from a written NRC request for an application to amend a license; provided, however, that the request is to simplify or clarify license or technical specifications, the amendment has no, or only minor safety significance, and the amendment is issued for the convenience of the NRC. Examples of such amendments would include, but are not limited to, conversion to standardized technical specifications, revision of reporting requirements, Commission initiated changes to simplify interpretation of specifications, and removal of unnecessary technical specifications after satisfactorily completing environmental studies.

Several persons commented that the Commission should specify a maximum level of inspection frequency rather than a minimum frequency so that licensees would know how many inspections would be performed in a given period of time, as well as the costs thereof. Some licensees argued that unless a maximum inspection frequency was provided for in the rule, the NRC could perform numerous inspections at will and charge the licensees for each inspection. We agree that the rule should provide for maximum charges, and thus, have revised the inspection fee schedules accordingly to show the maximum number of charges which will be assessed against a license during a specified period.

One person commented that the proposed schedule of facility fees did not recognize the case of a duplicate plant project utilizing a reference nuclear steam supply system and a balance of plant. This approach to standardization is covered by § 170.21, fee Category A.4.b.

It was suggested by one person that NRC costs incurred in the review of applications for approval of standardized reference designs filed by vendors and architect-engineers be incorporated in the charges assessed to a utility filing for a construction permit for a nuclear power plant. The writer argued that the utility is the ultimate recipient of any benefit of standardization. We have not done this because vendors and architect-engineers file the applications and request approval of their designs and are therefore the identifiable recipients of special benefits conferred by NRC approval of standardized reference designs.

One person commented that any fees paid for an early site review should be deducted from the charge assessed for a construction permit. We agree that, where an application for a construction permit is filed proposing to build a facility on a site which has been approved for a facility by the NRC, and a fee has been paid for the early site review, the fee will be subtracted from the charge imposed on the applicant for the construction permit. In no instance will an applicant be required to pay more than one fee for review of a single site, except where the time lapse since the review is such that an update of the review must be completed.

Two parties commented that it would be unfair to assess fees for Preliminary Design Approvals and Final Design Approvals for standardized reference designs where the application was on file prior to the effective date of this notice. As of December 16, 1977, the Commission has reviewed and issued 11 approvals without assessing fees. To be fair and equitable in those cases where no fees are presently being charged, the Commission will exempt from payment of fees (1) approvals of Preliminary Design Approvals and Final Design Approvals, (2) special projects, e.g., early site reviews, topical reports, and amendment or renewal of Preliminary Design Approvals and Final Design Approvals, (3) approvals issued for the evaluation of casks, packages, and containers, used in transportation of radioactive material, and (4) approvals for standardized spent fuel facility designs, provided such complete and acceptable applications were filed prior to the effective date of this notice. In those cases where no fees are presently being charged for license amendments and license renewals, and where a complete and acceptable application for amendment or renewal is filed prior to the effective date of this notice, the Commission will exempt the application from fees.

In the case of Part 50 construction permits, manufacturing licenses, and operating licenses, where the permit or license review is completed on or after the effective date of this amendment to Part 170, the revised schedule of fees shall apply. Under the present regulations in Part 170, the application fee for Parts 30, 40 and 70 licenses covers the review and licensing process. Accordingly, no additional license fees would be imposed on those applications filed prior to the effective date of this amendment.

One person questioned how charges would be determined for facility Reference System Preliminary Design Approvals and Final Design Approvals when more than one standard design is included in a single application. The point was made that it would be unfair to charge a full fee for each approval when there is likely to be an amount of commonality in designs. The charge for vendor and architect-engineer standard design approvals will be based on the expenditures for professional manpower and appropriate support services required to review the particular application with an upper ceiling specified in the rule. The charge for the approval of a single design will not exceed that shown in the fee schedule (application fee plus approval fee). When one application for a Preliminary Design Approval or a Final Design Approval contains more than one design, the additional approvals are subject to a maximum fee which is the sum of the application fee and approval fee. Consequently, where a design has commonality with a previously approved design, the reduced effort will be reflected in the charge. Where a Preliminary Design Approval or Final Design Approval is amended or renewed the amendment fee or renewal fee will be based on expenditures for professional manpower and appropriate support services required and be considered as a special project.

Two parties suggested that the colection of fees for Preliminary Design Approvals and Final Design Approvals be deferred until the design is sold and a construction permit issued and the fee be spread over several units. The Commission has decided that collection of review costs for Preliminary Design Approvals and Final Design Approvals will be as follows: the applicant will be required to remit an application fee of $50,000 with the application and pay 20 percent of the remaining review costs (which are limited by the rule) for each of the first five units of the approved design as they are referenced in applications filed by a utility or utilities.

Several parties argued that collection of fees for regulatory services may lead to inefficiency and redundancy in NRC's review of applications. This argument appears to be without merit. The Commission is committed to the expeditious review of each application; however, the review must be conducted within the established guidelines and regulations of the NRC and applicable statutes. In addition, the Commission is committed to the effective use of its resources and accordingly, budget and staffing proposals are carefully reviewed by internal review committees, by the Commission, by the Office of Management and Budget in the Executive Office of the President, and by the Congress.

Several persons commented that the NRC's assessing of fees, while the Agreement States do not, puts the Commission licensees at a competitive disadvantage with licensees operating under Agreement State licenses. The extent and significance of this problem is not serious because at this time, several Agreement States have license fees and it is expected that other states will adopt a fee program. The Commission has furnished model license fee legislation to all 50 states and to the Council of State Governments. In addition, there are few instances where Commission licensees are in close and direct competition with Agreement State licensees. Finally, assessment of fees here is consistent with the judicial guidelines utilized in promulgating this fee schedule.

One person commented that the length of time is too short between renewals for materials licenses, and that renewal fees should be deleted since the renewal of a materials license can be addressed as an amendment.

The matter of the length of time between issuance and expiration of a license is not directly related to fees. It is noted, however, the staff is currently reviewing the five-year renewal requirement for materials licenses. With regard to whether or not a separate fee category is warranted for renewals, it should be noted that the nature and scope of license renewals and license amendments are sufficiently different to warrant categorizing them separately. License amendment reviews normally focus on one or more narrow aspects of a licensed operation, while a license renewal involves a broad review of nearly all aspects of licensed operations.

Two persons commented that the terms "major amendment" and "minor amendment" for materials licenses should be defined and that the cost difference between the major and minor amendment fees may not be fair. The proposed fee schedule did define the two classes of materials license amendments. Because of limited licensing experience in the fuel cycle area, commercial waste disposal by burial, and the evaluation of packages and containers used in transportation of licensed material, the fees shown in the schedules will be the maximum charges and the fee will be based on the actual expenditures for professional manpower and appropriate support services.

Several persons commented that Category 11, the fees for review and approval of shipping packages and containers, should be broadened to differentiate between small and large shipping containers. The proposed rule has been revised to take into account the various types of shipping containers on the basis of the decay heat for spent fuel casks. The number of categories has also been expanded to make a distinction with respect to the quantity and form of radioactive material that may be present in the shipping package and whether the contents of the package are fissile.

Numerous colleges and universities questioned whether nonprofit educational institutions would be required to pay license, amendment, and inspection fees for research reactor facilities under the proposed schedule of fees when the facility is used for purposes other than teaching, training, or medical activities. They argued that to impose such charges may in some instances jeopardize their research programs. On the other hand, there were also comments from industry that it was unfair for an educational institution to use a research reactor for commercial purposes in competition with private industry without being subject to the payment of license and inspection fees. Currently, there are 54 colleges and universities licensed by the Commission to operate research reactors. The Commission does not have data concerning how extensively these facilities may be used for purposes other than teaching, training, or medical. It is not practical to resolve this matter with this amendment to Part 170. The Commission will pursue this matter at a later date and issue a separate notice.

Several parties argued that the Commission should not impose fees on vendors and architect-engineers for review of facility topical reports. These reports deal with subjects such as design, analytical models, or techniques or performance testing of components, and systems of nuclear power plants, which can be reviewed independently of any specific license application for a construction permit or operating license. The basis for the argument is that these reports benefit the Commission's licensing process and the utility by reducing the time required to process a permit or license. They argue that imposition of fees for topicals may discourage the submission of such reports since the vendor and architect-engineers are not particularly interested in this review system in any event.

The May 2, 1977 notice left the charge for topical report reviews open; to be based on actual expenditures for professional manpower and appropriate support services with no upper limit. The topical report review involves the evaluation of an application filed by a vendor or architect-engineer. It comes under the Commission's guidelines for assessing fees to persons who are identifiable recipients of special benefits conferred by specifically identified activities of the NRC. The Commission has decided to assess fees for topical reports because the service provided in the review of the application or report falls within the guidelines which were based on the court's decisions. The Commission has, however, set an upper limit of $20,000 for a topical report review because it believes that the submission of topical report requests should not be discouraged by the possibility of an open-ended fee. In this exceptional circumstance the Commission has, therefore, set a maximum fee for the topical report review. It is to be noted that the upper limit applies equally to all persons who request topical report reviews and is consistent with the guidelines.

One licensee commented that the steady-state power, which characterizes a research reactor, is the level which the Commission should use in setting the frequency of routine inspections. The classification of each licensed research reactor is described in the Commission inspection manual which is in the Commission's Public Document Room located at 1717 H Street NW., Washington, D.C. This classification is based on various characteristics of the facility as they relate to safety and, in general, are related to licensed steady-state power levels. As suggested, steady-state power will be used to determine the frequency of inspections for research reactors.

One person commented that it is inequitable to propose a safeguards inspection fee for a reactor fuel reprocessing facility that is substantially higher than the fee for a power reactor. Most of the difference in fees result from costs attributable to the inspection of the material control and accountability aspects of the licensee's program. This is directly related to the fact that considerable special nuclear material is in an uncontained state while in various process streams and, therefore, is much more vulnerable to theft and/or diversion through sabotage in a fuel reprocessing plant. By contrast, inspection for a reactor is concerned with control and accountability involving only verification of sealed fuel element inventory and burn-up calculations and physical security.

Several parties commented that fees should be related to revenue earned by the licensee or to the volume of sales so that smaller businesses pay lower fees. The Court of Appeals found that the value conferred standard means that the fee assessed cannot exceed approximate costs to the agency rendering the service. Fees based on revenue or the volume of business would not conform to the Court's guidance because these variables are unrelated to the NRC's costs of performing the service.

It was suggested by one person that the new schedule should include a provision for situations where the licensee places a licensed plant in a standby situation for an indeterminate period. This situation would be handled by license amendment. When a plant is placed in standby, the license may be modified to authorize "possession only" and this would be considered a minor amendment. When the licensee plans to resume operations, the license would be amended to authorize "possession and use".

Changes Incorporated in Final Rule

1. The schedule of facility fees has been revised to provide that charges for construction permits, operating licenses, facility manufacturing licenses, review of standardized reference designs filed by vendors and architect-engineers, and topical report reviews will be based on the expenditures for professional manpower and appropriate support services required to process the application or request. Such charges will not exceed the fees shown in § 170.21.

2. A new term "Advanced Reactors" has been added to § 170.21 and will replace the category identified as "Breeder Reactors". The new category is defined as any nuclear reactor concept other than light water reactors and high temperature gas cooled reactors and will accommodate new reactor concepts which may be submitted to the Commission for review.

3. The category identified as Fuel Reprocessing Complex has been deleted in Proposed 170.21 E. Any processing of such applications in the future will be handled as special projects.

4. Footnote 4 of § 170.21 (previously designated footnote 10) has been revised to provide that, where a fee has been paid for a facility early site review, the charge will be deducted from the fee assessed for a construction permit issued for the approved site. Also, the revised footnote clarifies the intent that a separate charge will not be assessed for a site review where the person requesting the review has an application for a construction permit concurrently on file for the same site, except where the application for the construction permit is withdrawn by the applicant or denied by the Commission.

5. The classes of amendments for facility permits, licenses, or approvals, have been revised extensively. Although six classes remain, the descriptions have been amplified and clarified. The footnote in § 170.22, which would exempt from fees amendments issued pursuant to Commission orders, has been broadened to provide that Classes I, II, and III amendments, which result from written NRC requests, may be exempted from fees at the discretion of the Commission when the amendment is issued for the convenience of the Commission.

6. The definition of special projects has been broadened to cover applications or requests to amend or renew Preliminary Design Approvals or Final Design Approvals for standardized reference designs filed by vendors and architect-engineers. Accordingly, fees for such applications or requests will be based on actual expenditures for professional manpower and support services.

7. The schedule of inspection fees has been modified to show the maximum number of charges which will be assessed against a license during a specified period. The proposed schedule did not set an upper limit. Licensees may be inspected more frequently than shown in the schedule, however, the number of charges will be limited by the schedule.

8. Several new fee subcategories have been developed for Category 1H licenses which authorize the receipt and storage of spent fuel. The new categories take into consideration factors which affect the scope of the licensing review. This includes whether or not the facility will be based on an approved standardized design or a custom design, and whether the facility will be located on a site for which an environmental and site safety review have been performed and documented when the license application is filed with the Commission. A new fee Category 12, covering the review of a standardized spent fuel facility design, has been established. The new categories will accommodate the new standardization concept in licensing.

9. Several new fee categories have been developed for the review of packages and containers used in the transportation of licensed radioactive materials. The new categories are designed to cover the smallest practical units used in transportation.

10. Materials license fee Categories 1A through 1G, 2A through 2C, and 4A, of § 170.31 have been modified to split the application fee shown in the proposed schedule into an application fee and license fee. The total charge will remain the same as shown in the May 2, 1977 notice. The modifications make the method of assessing fees for

fuel cycle applications and licenses consistent with that used for Part 50 facility licenses.

11. The definition of materials license fee Categories 1A, 1C, 1D, 1E, 1F, and 1G, of § 170.31 and § 170.32 have been modified to make the language consistent with Part § 73.1 and equivalent sections of Part 70 with respect to safeguards application requirements.

12. Footnote 1 to § 170.31 has been revised to provide that an application for a license, license renewal, or license amendment, covering more than one fee category of special nuclear material, except Category 1H (spent fuel storage), will be subject to the category having the highest fee, provided, however, the use of the material is confined to one location. The purpose of this change is to clarify the intent of the Commission to limit fees to the direct and indirect costs of the licensing review or inspection.

13. § 170.31 has been revised to clarify the intent that applications for licenses to manufacture and distribute encapsulated byproduct material or special nuclear material for use in power generation are not subject to the charges in fee Categories 1J and 3A. Also, fee Category 10 covering power sources has been revised to clarify that reactor start-up sources are not considered sources used for power generation.

14. Fee Categories 1D through 1G, and 1J have been revised to clarify the intent that these categories cover licenses which authorize research and development and that the radioactive material is in an unsealed form.

15. A footnote has been added to § 170.31 which specifies that an applicant for a license or license amendment which would authorize both byproduct material and special nuclear material contained in sealed sources for use in gauging devices will pay a single fee under fee Category 1I. This change takes into account the Commission's intent to limit fees to the direct and indirect costs of the licensing review.

16. Fees have been established for renewal of Commission "Approvals" for packages and containers used in the transport of radioactive materials. The renewal fee was inadvertently omitted in the proposed schedule.

17. The terms "duplicate unit", "replicate unit", "reference systems concept", and "Advanced Reactors", have been added to § 170.3 for clarification purposes. The definition of "waste disposal license" has been deleted as unnecessary.

18. A footnote has been added to § 170.32 which provides that, where more than one permanent radiography installation is shown on a materials license as authorized locations of use, a separate fee will be assessed for the routine inspection of each location, provided, however, that if the multiple installations can be inspected during one visit a single inspection fee will be assessed.

19. The regulation in § 170.12 concerning the remittance of fees by applicants and licensees has been revised in its entirety to accommodate the amended rule.

20. The schedule of amendment fees for materials license Categories 1A through 1H, 2A through 2C, 4A and 4B, and 11A through 11D, have been modified to add fees for "Administrative" type amendments. Footnote 3 to § 170.31 has been amended to define administrative amendments. The modification will accommodate those requests from licensees which are routine or administrative in nature (e.g. name changes, minor word changes in licenses or approvals, etc.).

21. The proposed amendment fee for materials fee Category 2B has been redesignated as a major safety and environmental amendment fee. A new category designated as minor safety and environmental amendment has been established for fee purposes. These changes make the amendment fees for Category 2B consistent with those established for other major fuel cycle licenses.

22. Footnote 4 of § 170.21 (previously designated as footnote 10) has been broadened to provide for a maximum fee of $20,000 for the review of a topical report. The fee will be based on actual expenditures incurred for professional manpower and support services. The fee in the proposed schedule was open-ended.

23. Footnote 1.d. of § 170.31 has been revised to provide that the Commission may exempt from fees applications for amendments to materials licenses and approvals which result from a written NRC request and the amendment is issued for the convenience of the Commission.

24. Footnote 4, of § 170.31, which provides for the charging of fees based on actual manpower and support services required to process the application, has been added to Categories 1D through 1G of § 170.31. This approach is consistent with other fuel cycle licenses where the professional manpower and appropriate support services will be determined and the resultant fee assessed, but in no event will the fee exceed that shown in § 170.31.

25. The method of payment for Preliminary Design Approvals or Final Design Approvals has been modified to require the application for approval to be accompanied by an application fee of $50,000, and to require the approval fee to be paid in five installments based on payment of 20 percent of the fee for each of the first five units of the approved design referenced in an application filed by a utility or utilities. Approval fees for additional designs, filed in a single application are subject to a maximum fee which is the sum of the application fee and the approval fee.

RULEMAKING PETITIONS

On May 2, 1974, Conner, Hadlock and Knotts, a Washington, D.C., law firm, filed a petition for rulemaking on behalf of 13 electric utilities with the Nuclear Regulatory Commission (at that time the Atomic Energy Commission) to amend the license fee schedules specified in 10 CFR Part 170 by reducing the fees for nuclear power reactor licenses. The petition cited the March 4, 1974 decisions of the Supreme Court, referred to previously. This petition was docketed as PRM-170-2 and a notice was published in the Federal Register on May 21, 1974.

In a letter dated February 7, 1975, the petitioners moved the Commission to limit fees to be charged in the future to the amounts specified in their petition of May 2, 1974, with respect to application fees, construction permit fees, and operating license fees, until the matter of appropriate fees is finally resolved by court or legislative action and to consolidate into Docket PRM-170-2 the Commission initiated rulemaking proceeding regarding the proposed amendments to 10 CFR Part 170. The Commission denied the petitioner's request for a temporary reduction of fees as made in their letter of February 7, 1975 and granted the request to consolidate Docket PRM-170-2 with the Commission's ongoing rulemaking proceeding in connection with the proposed amendment of 10 CFR Part 170 (40 FR 33736).

The Nuclear Regulatory Commission has developed a revised schedule of license fees in 10 CFR Part 170 consistent with the holdings of the Supreme Court decisions and the United States Court of Appeals for the District of Columbia Circuit in its December 16, 1976 decisions in the Federal Communications Commission cases.

Under these Courts' decisions, we find no basis for granting the petitioner's request for a reduction of licensing fees to approximately five percent of the current level in 10 CFR Part 170. Under the guidance provided by the Court of Appeals, fees may be assessed to persons who are identifiable recipients of special benefits conferred by specifically identified activities of the NRC. Special benefits include services rendered at the request of a recipient, all services necessary for the issuance of a required license, and all services necessary to assist a recipient in complying with statutory obligations or obligations under the Commission regulations. Under the revised schedule, the direct and indirect costs incurred in providing special benefits as described above were used in fee calculations.[1]

The Atomic Industrial Forum also filed a petition to amend the license fee schedule (PRM 170-1, 39 FR

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[1] Under its current regulations the Commission recovered approximately 3.7 percent of its regulatory budget in fiscal year 1977. If the revised schedule had been in effect during fiscal year 1977, the Commission would have recovered about 12 percent of its fiscal year 1977 budget of approximately $250 million.

15521). The Commission's independent rule making proceeding on license fees has rendered the petition moot. Accordingly, it is denied.

Following the Supreme Court decisions on March 4, 1974, in *National Cable Television Association, Inc.* v. *United States* 415 U.S. 336 (1974), and *Federal Power Commission* v. *New England Power Co.*, 415 U.S. 345 (1974), the Commission eliminated annual license fees and notified licensees that a request may be filed for refund of annual fees collected. We again advise licensees that a refund of annual fees is available. A request for refund should include the name and address of the licensee and the license number. Each specific annual fee refund claim should include the invoice number, the amount paid by year, the amount of the refund requested, and the amount of any previous refund.

Request for refunds should be mailed to the Office of the Controller, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Part 170, are published as a document subject to codification to be effective March 23, 1978.

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45 FR 50706
Published 7/31/80
Effective 7/31/80
Effective Date 12/24/80 *

Safeguards on Nuclear Material-Implementation of US/IAEA Agreement

See Part 75 Statements of Consideration.

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46 FR 49573
Published 10/7/81
Effective 11/6/81

10 CFR Part 170

Fees for Review of Applications

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Commission is promulgating an interpretative rule to clarify that fees for review of power reactor license applications and major fuel cycle license applications will be charged, as appropriate, when review of an application is completed, whether by issuance of a permit, license, or other approval, or by denial or withdrawal of an application, or by any other event that brings active Commission review of the application to an end.

EFFECTIVE DATE: November 6, 1981.

FOR FURTHER INFORMATION CONTACT: William O. Miller, Chief, License Fee Management Branch, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone: 301-492-7225.

SUPPLEMENTARY INFORMATION: Based upon the language of 10 CFR 170.12(b) and of footnote 3 to 10 CFR 170.21 (footnote 3 reads in pertinent part as follows: "When review of the permit, license, approval, or amendment is complete, the expenditures for professional manpower and appropriate support services will be determined and the resultant fee assessed, but in no event will the fee exceed that shown in the schedule of facility fees.* * *") the Commission has been billing power reactor construction permit applicants for the actual costs of review of withdrawn applications up to the time the applicant withdraws the application from Commission consideration.

It was the Commission's intent in promulgating 10 CFR Part 170 that charges be assessed whenever a review is brought to an end, whether by reason of issuance of a license, a denial of an application, or by its withdrawal, suspension or postponement. These charges are authorized and directed under Title V of the Independent Offices Appropriation Act of 1952 (31 U.S.C. 483a) and supported by judicial decision upholding charges for government services rendered to applicants based upon cost to the agency. See *e.g.*, *Mississippi Power and Light v. NRC*, 601 F. 2d 223 (1979) *cert. denied* 444 U.S. 1102 (1980), and cases cited therein. The fee guidelines approved by the Commission and the Court of Appeals in *Mississippi Power and Light v. NRC, supra*, make clear the Commission's position that the review of an application at the request of an applicant is a service for which a charge may be made. Under the guidelines, fees may be assessed for services rendered at the request of an applicant whether or not these services are linked to or result in the issuance of a permit or license. For example, the guidelines support the inclusion in the fee schedule of "special projects and reviews" that do not result in issuance of permits, licenses or approvals but are yet subject to a fee for the service based upon actual cost. (10 CFR 170.21, Schedule F). The review given a power reactor application that does not end in a permit or license is analogous to a special project with respect to the work performed and the service rendered to the applicant.

The interpretative amendments to 10 CFR 170.12 are intended to remove any possibility of misunderstanding the Commission's intent to charge fees on withdrawal or denial of an application and in appropriate cases of suspension or postponement of action on an application. The Commission will consider billing an applicant for costs incurred in the processing and review of an application upon either a statement of intent by the applicant to postpone further review effort or a delay in the construction schedule which causes the staff to postpone further review. In the event an application is reinstated without significant changes, or review effort recommenced, subsequent charges will accrue only from the time of reinstatement or recommencement of review effort. In these cases the aggregate of charges for review of applications covered by the actual cost principle will not exceed the scheduled amount for the class of facility.

Although the impetus for issuing this interpretative rule stems from the withdrawal of power reactor construction permit applications, the interpretative amendments also apply to certain materials licenses applications subject to the actual cost principle as stated in footnote 4 to 10 CFR 170.31. These are primarily major fuel processing and fabrication plants, waste storage and disposal facilities, spent fuel storage facilities, uranium milling plants, evaluation of casks and packages, and special projects.

Since the new language merely restates what the Commission's rule has been on collecting fees for withdrawn or otherwise terminated applications since the promulgation of revisions to 10 CFR Part 170 (43 FR 7218; February 21, 1978), the clarifying language is applicable to all license applications on file before the Commission on or after March 23, 1978, the effective date of the current version of 10 CFR Part 170, as well as to those received after adoption of the clarifying language.

Although the rules' changes in these amendments are interpretative only and could have been published effective immediately without notice and comment under 5 U.S.C. 553(b), and without the customary 30 days notice under 5 U.S.C. 553(d), the Commission decided to solicit public comment prior to adopting the clarifying language. (See 45 FR 74493, November 10, 1980.)

Four comments were received. All objected to the proposed rule. A 29-page comment submitted by Shaw, Pittman, Potts and Trowbridge, a law firm representing several electric utilities, claimed that the proposed rule could not be regarded as an interpretation of the existing fee rules, effective since March 23, 1978, but rather amounted to "a substantive amendment by which the Commission for the first time seeks to impose license fees on withdrawn applications." To support this claim the Shaw, Pittman comment argued that the 1978 fee regulation, 10 CFR Part 170, made no provision, "either directly or by fair inference," for the payment of fees, other than the application fee, for review of license applications that are withdrawn before a license or construction permit issues. Accordingly, Shaw, Pittman asserted that the NRC cannot, as the proposed interpretative rule would do, impose fees to recover costs incurred in processing license applications that were on file on or after March 23, 1978 but have since been withdrawn. "Even assuming that the Independent Offices Appropriation Act (IOAA) would permit the assessment of such fees for withdrawn applications," this commenter concluded, "at the most, the Commission can assess license fees on withdrawn applications only in connection with services and benefits rendered by the Commission after the effective date of the proposed amendment."

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*Amended 45 FR 84967

The other commenters generally agreed with the Shaw, Pittman position that fees for withdrawn applications were not imposed by the 1978 fee regulations and therefore cannot be imposed by an "interpretative" rule based on those regulations. The other commenters also raised the argument that the Commission lacks statutory authority to imposed fees for withdrawn applications because the applicant has received no "special benefit" when an application has been withdrawn. Public Service Company of Oklahoma, for example, noted that it "shared the widespread interpretation of Part 170 that such fees were to be charged only upon *successful* completion of review." (Commenter's emphasis.)

In response to these comments the Commission reaffirms at the outset its conclusion that NRC review of a license application constitutes a "special benefit" subject to a fee under the IOAA, whether or not a license issues after completion of the review. The NRC's work in performing these reviews is a service rendered at the request of the applicant. The Commission's fee guidelines, set out in the 1978 notice promulgating the present fee schedule, made it plain that under the IOAA fees could be assessed to recover the cost of providing these services:

> Fees may be assessed to persons who are identifiable recipients of "special benefits" conferred by specifically identified activities of the NRC. The term "special benefits" includes services rendered at the request of a recipient and all services necessary for the issuance of a required permit, license, approval, or amendment, or other services necessary to assist a recipient in complying with statutory obligations or obligations under the Commission's regulations.

See the Commission's fee guidelines (43 FR 7211, February 21, 1978). These guidelines were quoted with approval in *Mississippi Power and Light* v. *NRC, supra.* There is thus no doubt that pursuant to the IOAA and the fee guidelines the Commission has authority to impose a fee to recover the cost of processing a license application that has been withdrawn.

The notice of final rulemaking also made clear that under the fee schedules effective March 23, 1978, the Commission intended to exert this authority by imposing all fees allowed by the guidelines, barring exceptional circumstances. The relevant language from the notice is as follows:

> These guidelines determine whether or not the Commission may charge a fee for a particular service and what the maximum fee may be. In keeping with the sense of Congress expressed in the Independent Offices Appropriation Act of 1952 that agency activities performed on behalf of persons the agency serves "shall be self-sustaining to the full extent possible," the Commission is generally obliged to impose the fees allowed by these guidelines where it is fair and equitable to do so. The Commission recognizes that in exceptional circumstances fairness may require that a fee be set at a level below the cost of rendering the service. However, the Commission's discretion to reduce fees for certain service categories is limited by the IOAA mandate and by the requirement that a consistent and fundamentally fair fee structure must accord equal treatment to similarly situated recipients of agency services. [43 FR 7211 (February 21, 1978)].

Those NRC activities and services which the Commission did intend to exclude from cost recovery were identified with specificity in the notice. See 43 FR 7212, 7213. None of the services specified as exempt from fees could reasonably be interpreted to include review of license applications later withdrawn. Nor is there any suggestion or reason to believe that the Commission would have regarded it as generally unfair or inequitable to recover the costs of reviewing license applications which turn out to be unsuccessful. Rather, the notice of final rulemaking stated that "[t]hose regulatory services which provide special benefit to applicants and licensees include: 1. The *processing* and *reviewing* of applications or requests for construction permits, operating licenses, manufacturing licenses, materials licenses * * *" [43 FR 7213 (emphasis added)]. As this language indicates, the notice tied "special benefits" to the processing and reviewing, not necessarily to the issuance of the license itself. Amended language in the fee regulation, 10 CFR 170.12(b), confirmed this emphasis on completion of review rather than license issuance as the fee-triggering event:[1]

> 10 CFR 170.12(b) *License Fees.*
>
> Fees for construction permits, operating licenses, manufacturing licenses, and materials licenses, are payable upon notification by the Commission when the review of the project is completed.

Finally, the notice of final rulemaking announced a major change in the Commission's method of determining fees. Henceforth, facility fees were to be based on the Commission's actual "expenditures for professional manpower and appropriate support services required to process the application or request." 43 FR 7216. The switch to an actual-cost basis, as distinguished from fixed fees based on the average cost for issuing a particular type of license, made it possible to determine and impose a fee based on the actual cost for any license review, even when, because of withdrawal or some other reason for termination, the review was completed at an atypical intermediate stage short of license issuance.

For the reasons given in the above discussion, the Commission has concluded that the notice of final rulemaking and the language in the final rule itself gave fair and adequate notice to license applicants that for applications on file after March 23, 1978 the Commission would charge a fee for withdrawn applications. The fee would be sufficient to recover the costs the NRC had incurred in reviewing those applications, to the extent the costs were not already covered by the application fee. The commenters' arguments to the contrary place unwarranted emphasis on certain language in 10 CFR 170.12(a), dealing with application fees, which provides that "(a)ll application fees will be charged irrespective of the Commission's disposition of the application or a withdrawal of the application." The commenters assert that this language, which appeared in the original 1969 proposed fee regulations and remains unchanged in the current version of the regulations, must be taken as the Commission's total and exclusive mechanism for recovering review costs of withdrawn applications. Yet it is clear that the power reactor construction permit application fee, presently set at $125,000, falls far below the cost which the Commission can incur in reviewing an application prior to withdrawal.[8] It does, of course, guarantee the NRC at least partial cost recovery should an applicant become insolvent, but one could not reasonably interpret the 10 CFR 170.12(a) provision for retention of this fee as by itself a fulfillment of the Commission's expressed intent in the 1978 regulations to recover to the full extent allowable the cost of providing special benefits.

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[1] The superseded rule, 10 CFR 170.12(b) (1977), had stated:

> Fees * * * are payable when the construction permit manufacturing license operating license is issued.

The commenters are correct that prior to adoption of the 1978 rule the Commission's regulations did not provide for recovery of withdrawn application costs beyond the amount of the application fee. Fees in addition to the application fee became payable only "when the construction permit * * * is issued." See 10 CFR 170.12(b) (1977). See also the proposed § 170.12(b) in the Commission's 1977 notice of proposed rulemaking, 42 FR 22149, 22162 (May 2, 1977). The commenters are not justified however, in concluding that in the 1978 rule the Commission intended to continue this treatment of withdrawn applications. In addition to changed language in 170.12(b), a clear signal that the practice had changed was the switch in the 1978 final rule to an actual-cost basis for determining fees, which made practical the assessment of fees reflecting the actual review costs for a withdrawn application, to be collected "when the review, is completed," 10 CFR 170.12(b) (1979).[9] From this amended language in 170.12(b), viewed in the context of the overall rulemaking emphasis on cost recovery, it should have been plain that under the new fee schedule an applicant cannot avoid review cost already incurred by withdrawing the application. Fees assessed after March 23, 1978 for the review of construction permit (CP) or operating license (OL) applications, whether withdrawn or resulting in the issuance of a CP or OL, were to be based on the actual manpower and contractual services costs expended for the review. The maximum fee for a CP or OL prescribed by regulation is assessed and collected upon issuance of the CP or OL. The actual human resource expended for the review is determined after issuance of the CP or OL and the utility is notified whether or not a refund may be due. If the application is withdrawn, the human resource expended is determined after the licensing board has dismissed the case (if a hearing has commenced), and the utility is billed accordingly. Once an application (CP or OL) is filed and the staff begins review, the costs associated with the review are costs that are covered by § 170.12(b) rather than cost subject to the scope of § 170.12(a). The revised language of § 170.12(b) reflects this change.

The Shaw, Pittman comments cite 10 CFR 170.21, footnote 4, dealing with early site reviews, as a supposed contradiction to the Commission's position that the 1978 rules impose fees for withdrawn applications. Footnote 4 provides as follows:

> Where a fee has been paid for a facility early site review, the charge will be deducted from the fee for a construction permit issued for that site. A separate charge will not be assessed for a site review where the person requesting the review has an application for a construction permit on file for the same site, *except where the application is withdrawn by the applicant or denied by the Commission.* (Commenter's emphasis)

The comment states:

> Footnote 4 is based on the premise that the fee for a site review will ordinarily be included in the construction permit fee. The final "except" clause is necessary so that the early site review fee can be collected separately in the event that the construction permit application is withdrawn and no construction permit fee can be charged. However, if the Commission is correct in its "interpretation" here—that the current regulations were always intended to require payment of license fees on withdrawn construction permit applications—then the "except" clause in footnote 4 would be rendered totally meaningless and redundant. This is so because the construction permit fee still would be payable despite withdrawal and would include the cost of the NRC review of the site portion of the application. In short, there would be no need for a special provision to ensure collection of the site review fee upon withdrawal of the construction permit application.

The comment is correct that Footnote 4 rests on the premise that the fee for an early site review (ESR) will ordinarily be included in the CP fee, but the comment has misinterpreted the "except where * * *" clause. Footnote 4 is intended to cover early site reviews filed under Appendix Q of the regulations. The "except" clause is necessary so that the early site review fee can be collected separately in the event that the *early site review* application (Appendix Q) is withdrawn, not the CP application. An applicant might very well withdraw the ESR Appendix Q application without withdrawing the Part 50 CP application, for example, in a case where the applicant finds a more suitable site for a proposed plant while the ESR for the site initially selected is still in progress. Thus, the "except" clause is not meaningless and redundant. In fact, the language reinforces the Commission's intent to treat withdrawn Appendix Q applications the same as withdrawn CP applications, that is, charge for them if they are withdrawn.

The commenter also suggests that, if the Commission can collect a fee for a withdrawn CP application, then by a literal reading of footnote 4 the Commission could collect an illegal double recovery by charging for the ESR as well. The following example of how footnote 4 might work in practice demonstrates that no such double recovery is possible, although technically the Commission could recover a separate early site review fee in addition to a fee for the withdrawn construction permit application. Collection of separate fees could come about as follows: (1) An Appendix Q application is filed and review is started by the Commission, (2) the applicant subsequently files a CP application which incorporates by reference the Appendix Q ESR and review begins on the reactor design, (3) site problems develop and the applicant withdraws the Appendix Q application, (4) applicant requests continuation of CP design review while looking for another site, (5) applicant subsequently withdraws the CP application. Footnote 4 of § 170.21 allows the Commission to immediately bill the applicant for the Appendix Q application upon withdrawal despite the fact that there is an active CP application on file and being reviewed. When the CP application is subsequently withdrawn, the Commission could bill for the Office of Nuclear Reactor Regulation (NRR) design review and Office of Inspection and Enforcement (IE) quality assurance work that has been completed from the date the application was filed to the date of withdrawal. There could never be illegal double recovery by the Commission since the fees for both reviews would be based on the actual manpower expended separately for, (1) the Appendix Q review and (2) the CP design work.

One commenter called attention to the express exemption from fees for withdrawal of application for early site reviews and argued that this exemption militated against charging a fee for a withdrawn application. It is correct that the Commission authorized an exemption from fees for certain early site reviews requested before March 23, 1978, in order to avoid an appearance of retroactively imposing a fee for a type of review where *no* fee had been prescribed by the regulations. This exemption was granted in the March 1978 notice of final rulemaking and is limited to early site reviews requested as special projects. It thus applies only to early site reviews requested under Appendix Q to 10 CFR Part 50, and not to early site reviews conducted as part of a standard construction permit review (see 10 CFR 2.101(a–1)).

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[8] The Commission has incurred costs of 6.1 million dollars in reviewing eight construction permit applications that have been withdrawn and billed since March 23, 1978. The application fees received from these applicants total only $945,000. Other applications have also been withdrawn for which the NRC has not yet completed the billing process.

[9] The change to an actual cost basis was not part of the rule proposed in 1977 but was adopted by the Commission in the final rule promulgated in 1978. Compared to the previous flat fee assessments this change benefits applicants by assuring that the fee for a facility license will not exceed the actual cost of processing (or a fixed fee set out in the schedule, whichever is lower), thereby giving applicants an opportunity to reduce their licensing costs below the level of fixed fees.

In sum, the Commission does not find persuasive the commenters' assertions that the fee regulations adopted on March 23, 1978 provide no basis for the Commission to impose fees recovering the costs of processing applications withdrawn since that time. The proposed interpretative rule, 45 FR 74493, does not add substantively to the provisions already in the Commission's regulations. This being the case, the Commission rejects the commenters' characterization of the proposed rule as "an impermissible retroactive fee assessment" which will impose "severe hardship on large numbers of applicants." The Commission sees no unfairness or "severe hardship" in requiring persons who have requested and received NRC review of license applications to pay the costs of that review in accordance with the IOAA, the intent of Congress, and the intent of the Commission as expressed in the Statement of Consideration for the final rule and the language of the rule itself.[4] Applicants presumably entered into the licensing process prepared to pay the costs of review in the expectation that a license would eventually issue. In claiming "hardship" the commenters have not demonstrated that applicants' decisions to seek licenses or to put off withdrawing applications already before the Commission have in fact hinged on any reasonable belief that review costs would be picked up by the NRC whenever the applicant should choose to declare the quest for a license abandoned. The Commission rejects these general contentions of "hardship" and concludes that there is no unfairness in imposing fees for withdrawn applications in the manner described by the proposed interpretative rule.

Pursuant to Title V of the Independent Offices Appropriation Act of 1952 (31 U.S.C. 483a), the Atomic Energy Act of 1954, as amended, and Sections 552 and 553 of Title 5 of the United States Code, notice is hereby given that the following amendments to Part 170, Title 10, Chapter I, Code of Federal Regulations, are adopted subject to codification.

46 FR 58281
Published 12/1/81
Effective 12/1/81

Licensing Requirements for the Storage of Spent Fuel in an Independent Spent Fuel Storage Installation; Minor Clarifying and Conforming Amendments

See Part 72 Statements of Consideration

47 FR 57446
Published 12/27/82
Effective dates:
10 CFR 20.311 of Part 20 effective date is 12/27/83; 10 CFR Part 61 and all other changes effective 1/26/83.

Licensing Requirements for Land Disposal of Radioactive Waste

See Part 61 Statements of Consideration

49 FR 21293
Published 5/21/84
Effective 6/18/84

10 CFR Part 170

Revision of License Fee Schedule

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations that include the schedule of fees for inspections and for the review of applications and requests for permits, licenses, approvals, amendments, renewals, and special projects. The revised schedule of fees will more completely recover NRC costs incurred in providing services to identifiable recipients, including both materials and facility applicants and licensees. The revision is based on the costs of providing services in accordance with the Commission's license fee guidelines published on May 2, 1977; subsequent evaluation of costs incurred by the NRC for inspection and review activities; and evaluation of public comments on the proposed revision of the regulations on fees.

≫**EFFECTIVE DATE:** June 20, 1984.

FOR FURTHER INFORMATION CONTACT: William O. Miller, License Fee Management Branch, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone: (301) 492–7225.

SUPPLEMENTARY INFORMATION: The Commission published a notice of proposed rulemaking on November 22, 1982 (47 FR 52454–52466), which was corrected on December 17, 1982 (47 FR 56505–56506), revising its fee regulations and schedule of fees for review of applications and requests for permits, licenses, amendments, renewals, approvals, special projects, reactor operator testing and routine and non-routine inspections. The proposed schedule would have removed the ceiling or maximum limits on fees for review of applications or requests for reactor construction permits, licenses, amendments, approvals, and topical reports; inspection of reactor facilities; applications or requests for uranium enrichment plants; major materials fuel cycle activities, including applications and licenses for 200 grams or more of plutonium in unsealed form or 350 grams or more of contained U–235 in unsealed form or 200 grams or more of U–233 in unsealed form, receipt and storage of spent fuel, possession and use of source material in recovery operations; applications for licenses for receipt of waste byproduct material, souce material or special nuclear material from other persons for the purpose of commercial disposal by burial by the licensee and licenses authorizing contigency storage of low-level radioactive waste at the site of nuclear power reactors; applications for licenses authorizing the use of byproduct material for field flooding tracer studies; applications or requests for approval of spent fuel casks and packages; and applications or requests for review of standardized spent fuel facilities or special projects.

The notice of proposed rulemaking invited interested persons to submit written comments for consideration in connection with the proposed amendments on or before January 18, 1983. Upon request, the Commission extended the comment period to February 8, 1983.

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[4] Although the interpretative rule is not "retroactive," as the commenters have characterized it, if it were the Commission would find ample legal authority for imposing such a rule. In *SEC v. Chenery Corp.*, 332 U.S. 194 (1974), cited by the Commenters, for example, the Supreme Court held that retroactive rulemaking was not *per se* forbidden and that "retroactivity must be balanced against the mischief of producing a result which is contrary to statutory design or to legal and equitable principles." The commenters, referring to *Chenery*, see no "mischief" in applying the Commission's interpretative rule prospectively only, but the Commission would regard it a substantial mischief unnecessarily to impose on the public treasury costs of more than six million dollars incurred by the government in performing services at the request of private beneficiaries (see footnote 2 above), albeit the requesters have now changed their minds about wanting those services, especially where Congress has made plain its intention that such costs should be recovered.

The Commission placed in its Public Document Room at 1717 H Street, NW., Washington, D.C., data used in developing the proposed rule and revised schedule of fees. In addition, the Commission's staff has been available to answer any questions concerning the notice of proposed rulemaking.

The November 22, 1982 notice of proposed rulemaking set forth the Commission's guidelines for fees under Title V of the Independent Offices Appropriation Act of 1952 (IOAA) (now codified at 31 U.S.C. 9701). These guidelines took into account guidance provided by the U.S. Supreme Court on March 4, 1974, in its decision of *National Cable Television Association, Inc.* v. *United States,* 415 U.S. 336 (1974) and, *Federal Power Commission* v. *New England Power Company,* 415 U.S. 345 (1974). In these decisions, the Court held that the IOAA authorizes an agency to charge fees for special benefits rendered to identifiable persons measured by the "value to the recipient" of the agency service. The meaning of the Independent Offices Appropriation Act of 1952 was further clarified on December 16, 1976, by four decisions of the Court of Appeals for the District of Columbia. *National Cable Television Association* v. *Federal Communications Commission,* 554 F. 2d 1094 (1976); *National Association of* Broadcasters v. *Federal Communications Commission,* 554 F. 2d 1118 (1976); *Electronic Industries Association* v. *Federal Communication Commission,* 554 F. 2d 1109 (1976); and *Capital Cities Communication Inc.* v. *Federal Communications Commission,* 554 F. 2d 1135 (1976). These decisions of the Courts enabled the Commission to develop fee guidelines that are still used for cost recovery and fee development purposes.

The Commission's fee guidelines were upheld on August 24, 1979, when the U.S. Court of Appeals for the Fifth Circuit held in *Mississippi Power and Light Co.* v. *U.S. Nuclear Regulatory Commission,* 601 F. 2d 223 (1979), cert. denied 44 U.S. 1102 (1980), that (1) the Nuclear Regulatory Commission had the authority to recover the full cost of providing services to identifiable beneficiaries; (2) the NRC could properly assess a fee for the costs of providing routine inspections necessary to ensure a licensee's compliance with the Atomic Energy Act and with applicable regulations; (3) the NRC could charge for costs incurred in conducting environmental reviews required by NEPA; (4) the NRC properly included in the fee schedule the costs of uncontested hearings and of administrative and technical support services; (5) the NRC could assess a fee for renewing a licence to operate a low-level radioactive waste burial site; and (6) the NRC's fees were not arbitrary or capricious.

On July 19, 1982, the U.S. Court of Appeals for the First Circuit decided the *New England Power* v. *NRC,* 683 F. 2nd 12 (1st Cir. 1982) concerning the assessment of fees for withdrawn applications. The Court held that applicants may not be billed for the cost of reviewing withdrawn applications for which the request for withdrawal was filed with the Commission before November 6, 1981, the effective date of the Commission's interpretative rule concerning this matter. The Court further stated that "review work performed by the NRC at the request of an applicant constitutes a sufficiently substantial and particulalrized benefit to the applicant to justify the imposition of fees under the court's reading of the IOAA."

The NRC staff examined the Fiscal Year 1981 costs of providing licensing review and inspection services and determined that the Commission's March 23, 1978 schedule of fees in 10 CFR Part 170 was not adequate to cover the costs of providing the service nor did they meet the intent of Congress as set forth in Title V of the Independent Offices Appropriation Act of 1952. Title V of the Independent Offices Appropriation Act was formerly codified at 31 U.S.C. 483a. With the enactment of Title 31, United States Code, into positive law, Pub. L. 97-258, September 13, 1982, 96 Stat. 1051, the law is now found at 31 U.S.C. 9701, and reads as follows:

> *Sec. 9701. Fees and charges for Government services and things of value*
>
> (a) It is the sense of Congress that each service or thing of value provided by an agency (except a mixed-ownership Government corporation) to a person (except a person on official business of the United States Government) is to be self-sustaining to the extent possible.
>
> (b) The head of each agency (except a mixed-ownership Government corporation) may prescribe regulations establishing the charge for a service or thing of value provided by the agency. Regulations prescribed by the heads of executive agencies are subject to policies prescribed by the President and shall be as uniform as practicable. Each charge shall be—
>
> (1) Fair; and
>
> (2) Based on—
>
> (A) The cost to the Government;
>
> (B) The value of the service or thing to the recipient;
>
> (C) Public policy or interest served; and
>
> (D) Other relevant facts.
>
> (c) This section does not affect a law of the United States—
>
> (1) Prohibiting the determination and collection of charges and the disposition of those charges; and
>
> (2) Prescribing bases for determining charges, but a charge may be determined under this section consistent with the prescribed bases.
>
> (Pub. L. 97-258, Sept. 13, 1982, 96 Stat. 1051)

Commission guidelines (47 FR 52454) were used as the basis for determining whether or not a particular licensing or inspection service rendered by the NRC may be subject to cost recovery under this rule and what the fee may be. The November 22, 1982 notice of proposed rule making and the schedule of fees contained therein contemplated full cost recovery where it was determined to be fair and equitable.

In developing the revised schedule, the staff analyzed the functions performed by each NRC office to determine which activities, if any, provided special benefits to applicants or holders of licenses, permits and approvals. After each service was properly analyzed and categorized, a yearly professional staff rate was developed for the Offices of Nuclear Reactor Regulation (NRR), Nuclear Material Safety and Safeguards (NMSS), and Inspection and Enforcement (IE), and for the Advisory Committee on Reactor Safeguards (ACRS), Atomic Safety and Licensing Board Panel (ASLBP), and Atomic Safety and Licensing Appeal Panel (ASLAP). The rates in § 170.20 were developed using (1) each office's costs of personnel compensation (salaries), personnel benefits, administrative support and travel, (2) the number of professional employees working in each program office (excluding administrative, supervisory and management direction employees), and (3) the overhead support costs based on an analysis of Program Direction and Administration and Program Technical Support provided to NRR, NMSS, IE, ACRS, ASLBP,and ASLAP.

After the analysis, the staff effort and other costs of the Offices of the Secretary (SECY), Controller (CON), and Management and Program Analysis (MPA) now Resource Management, Administration (ADM), Executive Legal Director (ELD), and Executive Director for Operations (EDO) were allocated as overhead support to other NRC offices. These costs of SECY, ELD and EDO were allocated on a percentage basis while the costs of ADM and CON were distributed to all NRC offices on a pro rata basis based on staff complement in each office.

Analysis of Comments Received

One hundred twenty-nine letters were received commenting on the proposed revision to Part 170. Fifty-three letters were from persons concerned with Part 50 facilities and 76 commented on fees for materials licenses. Fifty-two of the 76 letters commenting on materials licenses were concerned with medical programs, eight were concerned with uranium mining or milling interests, and the remaining 16 were concerned with other types of industrial applications. In addition to the 129 letters of comment, 13 letters of inquiry were received from Congressmen. Copies of all comment letters are available for public inspection or copying for a fee at the NRC's Public Document Room, 1717 H Street, NW., Washington, D.C.

The comments ranged from strong opposition to all fees to the argument that the proposed fees were inadequate to recover the NRC's costs of all work necessary to protect the public health and safety and environment.

Most comments took issue with the proposed amendment in six areas: (1) The proposed elimination of ceilings on fees; (2) retroactive application of the proposed amendments; (3) charges for certain kinds of exemptions or extensions of time required to comply with a rule; (4) the need for NRC management control over the review and inspection process; (5) charges for non-routine inspections; and (6) proposed fees for medical program licenses.

Elimination of Ceilings

Comments on the proposed elimination of maximum fees asserted this action was inequitable and did not take account of staff inefficiencies and variations in the work product of personnel that exists in the licensing process. Commenters asserted that these variations in staff efficiencies are beyond the control of the applicant and that the applicants should not have to pay for perceived staff deficiencies and inefficiencies in the licensing process.

In legal terms, it is clear that the Commission may charge the full cost of processing an application for which the applicant receives a special benefit not available to the public at large. This is clearly one of the conclusions to be drawn from *Mississippi Power and Light* v. *U.S. Nuclear Regulatory Commission*, 601 F.2d 223 (5th Cir. 1979) where the court approved the fee rule and schedule published in February, 1978. That fee schedule included full cost recovery for several kinds of licensing activities as well as Commission reviews that fell within the category of special projects. In upholding the fee schedule, the court explicitly emphasized the legal authority of the Commission to recover the full cost of providing services to identifiable beneficiaries. *See id.* at 232 and 233.

≫ Although there is no legal objection to full cost recovery, in response to comments received, the final rule has been amended to retain a predetermined ceiling or maximum fee for a majority of applications and licenses where the fees are computed on an individual basis using the professional staff hours and the professional staff rates contained in § 170.20 and contractual services costs expended for the case. The ceilings represent, in most instances, the top of the cost ranges shown in the proposed rule for the various fee categories.

For power reactor operating licenses, McGuire 1 review costs were used as the ceiling for the operating license fee since it was the only full or 100% power operating license issued in FY 1981 for a first unit at a site. The McGuire review did not encompass any unusual review problems and could be considered a normative operating license review. 46,200 professional staff hours were required for the McGuire 1 review and when these hours are multiplied by the appropriate FY 1981 staff rates and the costs of contractual support services are added, the cost is approximately $3.1 million for the operating license.

There is no firm data base that may be used to establish a ceiling for reactor construction permits since the NRC has not completed a construction permit review since January 1979. Only the Hanford/Skagit and Clinch River applications are under review and indications are that the Hanford/Skagit application will be withdrawn. The Clinch River Breeder application is unique and incomplete. At this point, costs incurred in the ongoing review of Skagit 1 are approximately $3 million. Accordingly, no ceiling has been established for construction permit reviews for power reactors.

The NRC has no applications on file for research or test reactor facility construction permits or operating licenses and none are anticipated. Consequently, no ceilings have been established.

On December 17, 1982, the NRC issued a manufacturing license to Offshore Power Systems for eight floating nuclear plants at the preliminary design stage. This is the only reactor facility manufacturing license that the Commission has issued. When the FY 1981 professional staff rates are applied to the professional hours required to complete the review of the preliminary design plus the contractual services costs expended, the cost for the review is approximately $3.2 million. Accordingly, based upon actual experience for this category, the new ceiling for the review of a manufacturing license preliminary design is approximately $3.2 million. The Commission has had no data base to use in developing a ceiling for review of a final design for manufactured reactor facilities.

Ceilings have been established for the review of Part 50 power reactor applications for license amendments and other approvals. The March 1978 rule separated applications for license amendments and other approvals into six classes based on the complexity of the review. In developing a ceiling for this final rule, the Commission examined approximately 200 completed power reactor amendment actions and applied the FY 1981 professional rates (§ 170.20) to the professional hours expended for each of these reviews. The review costs ranged from a few hundred dollars for an administrative type amendment to $164,600 for an amendment authorizing repair of a steam generator. The 1981 amendment authorizing steam generator repair required 2,609 professional hours and $2,800 in contractual support services costs to complete the review. This application was used as the ceiling for power reactor license amendment and other approval fees. A ceiling of $42,100 has been established for test and research reactor facility license amendments based on the upper limit of cost shown in the November 22, 1982 notice.

The Commission has not changed the ceiling of $20,000 on charges for the reviews of topical reports. These reports are normally reviewed independently of any specific application for a construction permit or license and should benefit the NRC licensing process and the utility by reducing the time required to review certain applications. The Commission believes that the upper limit of $20,000 for a topical report review is fair and equitable and should not discourage the submission of such reports. The ceiling applies to all persons filing topical reports for review and is consistent with Commission license fee guidelines as set forth in the Commission's November 22, 1982 notice of proposed rulemaking.

A limit of $147,600 has been established as the ceiling that may be assessed a utility for Part 55 examinations and associated activities conducted for each of its plant site(s) during any one-year period. This ceiling is based on workload data developed by the Office of Nuclear Reactor Regulation (ONRR) which shows that on the average 1.32 professional staff years are expended per site each year to conduct requalification examinations, replacement examinations and reexaminations for reactor operators. Based on the FY 1981 professional staff rates, the NRC's average cost for this service would be $147,600 and this figure has been used as the ceiling which may be assessed during any one-year period per site.

Ceilings have been retained for review of applications for preliminary and final standardized reference design approvals filed by vendors and architect-engineers for reactor facilities. No preliminary design approvals (PDAs) or final design approvals (FDAs) were issued in FY 1981 and the only approval issued in recent years was the FDA for GESSAR II issued July 27, 1983, to General Electric. The review of GESSAR II required 15,176 professional staff-hours and $468,493 in contractual services costs. Since GESSAR II is the only recent standardized reference design approval completed, it was used as the base to establish a ceiling for review of standardized reference designs filed by vendors or architect-engineers. The ceiling is approximately $1.4 million and was computed by using the professional staff-hours expended for the review multiplied by the staff rates in § 170.20 and the costs of contractual services. The NRC has no recent data to use in developing ceilings for amendments and renewals of preliminary and final design approvals.

Ceilings have been retained on fees for routine inspection of nuclear power reactor facilities (Category 170.21A); test, research and critical facilities (170.21C) and all categories of materials licenses except special nuclear material license categories 170.32 1E, 1F and 1I; source material license category 170.32 2E; and waste disposal license category 170.32 4A. The November 22, 1982 notice of proposed rulemaking would have eliminated ceilings on inspection fees for all Part 50 licenses, fuel cycle licenses, licenses authorizing receipt and burial of radioactive waste and licenses authorizing contingency storage of low-level radioactive waste at nuclear power reactor sites.

The revised ceiling on fees for routine inspections of an operating nuclear power reactor is $300,000, and is based on actual FY 1981 inspection experience. This ceiling is a combined maximum that may be charged for routine safety and safeguards inspections commenced on or after the effective date of this rule and represents the maximum amount that may be charged for each licensed reactor unit during a one-year period. No ceilings have been developed for special nuclear material license categories 170.32 1E, 1F and 1I; source material license category 170.32 2E; and waste disposal license category 170.32 4A because of the limited inspection activity and inspection cost data for these licenses. NRC records show only four category 1E licenses, two 1F licenses, seven 1I licenses, seven 2E licenses and two 4A licenses.

There are no ceilings in the final rule for non-routine or reactive inspections, except for small materials license programs in fee categories 170.32 1J, 1K, 2D, 2F, 2G, 3A–P and 4B through 8A. Ceilings were not established for these licenses because the level of inspection effort required to deal with incidents, or allegations, or required for followup on program deficiencies or implementation of specified safety requirements is determined on the basis of the safety significance and threat to the public health and safety. Fees for non-routine inspections where no ceilings are shown in the rule will be based on full costs.

Ceilings have been retained for review of applications for renewal and amendment of special nuclear material license categories 170.31 1A, 1B, 1D, 1E, 1F and 1G. Fees for new special nuclear material licenses in categories 170.31 1A–1G, 1H1 and 1I will be based on full cost without ceilings because the NRC has no recent data to use in developing ceilings and no new applications are anticipated for these categories. Ceilings are retained for source material license categories 170.31 2A and 2B for new licenses, amendments and renewals and for categories 170.31 2C and 2D for license renewal and amendment only. Ceilings are retained for waste disposal license category 4A for new licenses, renewal and amendment. Ceilings have been retained for transportation certificates of compliance categories 170.31 10A–10E. These ceilings are based on revised estimates of review effort provided by the licensing staff. In instances where the licensing staff estimates exceed the top of the cost range shown in Table 10 of the November 22, 1982 notice, the Commission has decided the upper range of cost shown in Table 10 will be retained as the ceiling.

The ceilings set forth in this final rule represent the maximum an applicant or licensee will pay for NRC services; but in no event will the fee assessed exceed the cost of reviewing an application or conducting an inspection.

Retroactive Application of Fees

Comments regarding "retroactive" application of fees were directed primarily to the question of applying full cost recovery to applications already on file and being processed at the time this rule change would become effective. Since the final rule would now retain ceilings for most major licenses, and the hourly rates established by this rule will apply only to work that occurs after the effective date of the final rule, this particular aspect of the question of "retroactive" application of the amendments is no longer germane. However, the Commission believes that the charge of "retroactive" application of the rule, implied by the commenters to be illegal, should be addressed in detail.

The Commission fails to see an impermissible retroactive application of the rule. For full license fees that are payable in advance on filing of an application, the fees are for future review and there is no retroactive application involved; most materials license applications would be in this grouping. For reactor construction permits and operating licenses, and for some major fuel cycle materials licenses, an initial application fee is charged with the balance of the fee to be paid in installments on a full cost basis as the work progresses until the full fee is reached. In such cases, the hourly rates established by this final rule will apply only to work that takes place on or after the effective date of the final rule. The hourly rates used for the 1978 rule (43 FR 7210) will be applied to work completed prior to the effective date of the final rule. Billing and payment will be for work in progress, and again no element of retroactivity is present.

For construction permit and operating license applications filed before the effectivedate of this final rule, there is no change in the Commission's position respecting the applicability of the fee schedule. Just as with the fee schedule published February 21, 1978 (43 FR 7210), the Commission's position is that the fee due is that fee in the schedule legally in effect in the codified regulations at the time the full fee becomes payable. This position was expressly stated in the Statement of Considerations to the 1978 rule. *See* 43 FR 7210, 7215. In approving in total the 1978 fee rule, the court in *Mississippi Power and Light* v. *U.S. Nuclear Regulatory Commission, supra.* accepted and ratified this position. The Commission's position was also ratified in *New England Power* v. *U.S. Nuclear Regulatory Commission,* 683 F. 2d 12 (1st Cir. 1982), where the court allowed a new rule charging a fee for withdrawn applications to be applied to applications withdrawn after the effective date of the rule (although not before), regardless of when the application was filed. In this case, it was clear that while no fee was chargeable until the new rule was effective, this fee would be chargeable to all applications withdrawn after its effective date. Thus, for both license fees and fees for withdrawn applications, the controlling cases establish that the fee to be charged is the fee in the rule in effect at the time the license is issued or the application withdrawn. The right of the Government to collect the full fee and the obligation of the applicant to pay are finally fixed at that time, and not before.

The concept of impermissible retroactivity applies only to those cases where a new law or rule is applied to transactions completed in the past, prior to the new rule, where the rights and obligations of the parties already have been fixed. *See Sturges* v. *Carter,* 114 U.S. 511, 519 (1884); *Reynolds* v. *United States* 292 U.S. 443 (1934). It is clear from the action of the courts in both *Mississippi Power and Light* v. *U.S. Nuclear Regulatory Commission, supra,* and *New England Power Co.* v. *U.S. Nuclear Regulatory Commission, supra,* that applicants have no antecedent right in any given fee (or absence of a fee) that was not finally due and levied on the applicant before the effective date of a rule enlarging a fee or imposing a new fee.

Commenters, however, cited a few cases to support their characterization of the Commission's proposed rule revision as impermissibly "retroactive." Among those cases cited, *Securities and Exchange Commission* v. *Chenery Corp.*, 332 U.S. (1947), in upholding an alleged "retroactive" administrative order of the SEC, appears to support the Commission's position more than commenters' position. Two other cases cited by commenters, *N.L.R.B.* v. *Majestic Weaving Co.*, 355 F. 2d 854 (2nd Cir. 1966), and *Retail Wholesale and Department Store* v. *N.L.R.B.*, 466 F. 2d 380 (D.C. Cir. 1972), are concerned with a very specialized national labor law case of applying a newly announced rule of decision in an adjudication to other adjudications in which the conduct of the parties predated the new rule and which relied upon a prior rule of decision. As the discussion in *Retail* indicates, even in these cases the answer to the question of permissible or impermissible retroactive application seems to lie in the discretion of the court. *See also, H. and F. Binch Co. Plant of Native Laces, etc.* v. *N.L.R.B.*, 456 F. 2d 357 (2nd Cir. 1972).

One commenter also took issue, on the basis of retroactive application of the fee schedule, with the removal of the ceiling for review of topical reports submitted for review prior to the effective date of these amendments. Two cases cited by this commenter, *Saint Francis Memorial Hospital* v. *Weinberger*, 413 F. Supp. 323 (N.D. Cal. 1976) and *Phillips Petroleum Co.* v. *Department of Energy*, 449 F. Supp. 760 (D. Del. 1978), both illustrate an application of the general principle that a rule cannot be applied retroactively to established antecedent rights in completed transactions. In the first case, an improperly issued rule was applied retroactively by the agency to deny a hospital its medicaid reimbursement for construction interest which it had paid and expensed rather than capitalized as required by the improper rule. In the second case, a rule was applied retroactively by the Department of Energy to deny to an oil refiner passed through, nonproduct cost increases previously allowed under DOE staff practices. These cases are consistent with *New England Power Co.* v. *U.S. Nuclear Regulatory Commission, supra*, where the court disallowed retroactive application of the new rule to applications withdrawn before its effective date; that is, the Commission could not change antecedent financial rights in fully completed transactions.

The Commission's position is that observations with respect to the asserted retroactive application of the new schedule to major licenses would also apply to increasing the ceiling for topical reports were the Commission to do so, however, in view of the fact that the Commission has not changed the ceiling for topical reports there is no need to further address the question. The action would not be retroactive because, under the Commission's rules as ratified by the courts, an applicant has no established antecedent right in the full amount of a fee until there is a fixed obligation to pay the full amount.

Fees for Requests for Exemptions or Extensions

Some reactor licensees expressed concern with the proposal to charge fees for requests for exemption or extensions of time to comply with Commission regulations. The rule published for comment proposed to change the rule on fees for requests for exemptions and extensions of time in two areas. First, the Commission's discretion to waive fees in certain instances would no longer be explicitly stated as done in footnote 2 to 10 CFR 170.22, and applicants and licensees should not depend upon an automatic exercise of Commission discretion in waiving fees. This is reflected in the revised wording of footnote 1 to the new 10 CFR 170.21. Discretionary exemption authority still exists, however, in the unchanged 10 CFR 170.11(b)(1). This change is primarily one of procedure, not substance. Further, amendments resulting directly from orders issued pursuant to 10 CFR 2.204 still remain exempt from fees.

Second, the proposed change would add exemptions from regulations to the list of Commission actions on applications subject to fees, an area not covered in the 1978 rule. In opposing this change, a few commenters cited *Connecticut Light and Power Co.* v. *NRC*, 673 F. 2d 525 (D.C. Cir. 1982) in support of their contention that fees should not be charged for exemptions from regulations. In this case the court, in upholding the NRC rule, stressed that the rule contained built-in flexibility in an exemption procedure under which licensees could show that an alternative to a prescribed requirement provided equivalent safety protection. Because the exemption feature of that rule was intended to be at the option of the licensee (i.e., the licensee could either comply with the rule as written or request an exemption that served, among other things, to allow more time for compliance), a licensee applying for an exemption did so for its own benefit. The review of the exemption request and the issuance of an approval is a service to the applicant that can be legitimately charged for when covered by the rule. It is the view of the Commission that the case is not persuasive on the point of not charging for requested exemptions from regulations.

In issuing its 1978 rule, the Commission exempted from fees certain applications for Commission approvals that had never been subject to fees and which were filed prior to the effective date of the rule. This was done on the grounds of fairness and equity because some applicants had already received approvals on a fee-free basis, while others in the same class had not and, were it not for the Commission's discretionary exemption, would have been subject to payment of a fee (See 43 FR 7210, February 21, 1978).

The final rule will allow the Commission to exercise its discretion in the same manner with respect to those exemption requests not previously subject to fees which were filed with the Commission prior to the effective date of this amendment to 10 CFR Part 170. This would primarily include exemption requests filed under the fire protection rule (10 CFR 50.48) and under 10 CFR 30.11, 40.14, 50.12, 70.14, and 73.5. Request for exemptions filed after the effective date of this amendment will be subject to fees.

Management Oversight

There were several comments that without ceilings on fees NRC management may not exercise adequate control over the review and inspection process to control costs and there would be little or no incentive to conclude license reviews and inspections quickly and use resources efficiently. It was suggested that there may be excessive use of contractor services in licensing and inspection.

The NRC's principal concern under the Atomic Energy Act of 1954, as amended, is public health and safety. While the Commission is committed to the expeditious review of each application and uses all reasonable means of keeping costs as low as feasible, its responsibility for health and safety and environmental protection cannot be compromised. The Commission's licensing and inspection budgets are based on the need to meet the agency's statutory responsibilities. The Commission exercises management controls to provide that its regulatory responsibilities are efficiently and effectively discharged.

To ensure that applications are processed in a timely and cost-effective manner, each NRC Office in the licensing process develops and works in accordance with an approved operating plan. Upon receipt of applications, schedules are established and resources allocated for each review based on the amount of time and professional staff effort determined necessary to complete the particular type of application or activity. Since the total assigned workload must be completed with limited resources, management is continuously challenged and, indeed, evaluated on its ability to balance workload and assigned resources in the most efficient and effective manner. Similarly, management is expected to adhere to established review schedules and changes are approved only with suitable justification. The staff's performance in meeting schedules is monitored continuously and critically by NRC staff management, the Commission, Congressional oversight committees and by the applicants and licensees.

Commenters suggested that there are factors which affect the cost of reviews and inspections that do not increase value to the recipient of the service; such factors as meetings attended by staff and reassignment of personnel to other projects were most often cited. Management exercises control to ensure that only those staff members who have a need-to-know or something to contribute participate in meetings. In certain instances, reviews may be delayed because project personnel are assigned to a higher priority task. This may occur for a variety of reasons, including applicant/licensee late responses to NRC requests for additional information. In any event, the agency must maintain flexibility in order to balance staff resources and workload efficiently and effectively.

The staff routinely prepares and maintains updated workload forecasts and resource allocation plans to enable management to make early determinations as to the potential need for outside contract assistance. In most instances, where outside assistance is required, the agency will utilize the service of experienced laboratories or commercial contractors.

It was suggested by the uranium milling industry that the NRC should eliminate or greatly reduce the use of outside technical consultants and use its staff with adequate management controls to review applications. Representatives also cited instances where they felt the NRC disregarded the input of consultants.

In reviewing applications, the agency uses existing staff where possible. However, it is sometimes difficult to find and retain qualified experts in all the various disciplines necessary to perform licensing reviews. Also, licensing work is sufficiently varied so that it is not always possible to justify having certain types of full-time experts on the staff to do the occasional reviews demanding their expertise. Consequently, outside technical consultants are used as needed. Thus, the employment of direct staff is not always more cost effective. As to disregarding the advice of consultants, the situation noted by the commenter resulted from experience and knowledge gained by NRC between the time that a draft Environmental Impact Statement (EIS) had been prepared using consultant input and the issuance of the final EIS. Operational difficulties at the first commercial scale mining operation required the staff to consider the site-specific hydrological characteristics in more detail; in effect, the work performed earlier by NRC consultants was overtaken by events.

To better manage contractual efforts, a Technical Assistance Program Manager is assigned to each contract and has an oversight function which includes cost and schedule control. The Program Manager is responsible for the review and approval of all contract costs that are to be included in any license fee. In the case of very large contracts, the NRC uses a full-time dedicated Technical Assistance Program Manager Group to manage, review, and oversee these contract operations.

Charges for Non-Routine Inspections

Several commenters expressed concern about the proposal to charge for non-routine (i.e., unscheduled) inspections. The commenters correctly pointed out that the Commission stated in earlier notices that for policy reasons it chose not to charge fees for non-routine inspections. For example, in the **Federal Register** notice of the current rule, the Commision stated that non-routine inspections would be excluded from fees based upon Commission policy (43 FR 7210, 7213, February 21, 1978), and that non-routine inspections are "considered to be an independent public benefit" (42 FR 22149, 22161, May 21, 1977). The commenters note that the notice does not state the basis for the change in Commission policy. Commenters also imply that it is legally inappropriate to charge a fee for non-routine inspections.

Regarding the first point, the Commission has stated two reasons for deciding to charge for non-routine inspections. Both non-routine inspections and routine inspections deal with the same fundamental issues of safety, health physics, safeguards and physical security of special nuclear materials, and protection of the environment. Since 1978, providing this service of non-routine inspections has become a significant effort for the NRC inspection staff. For these reasons, the Commission is changing its policy on non-routine inspections and accordingly finds it appropriate to recover the costs of these services.

As to the second point, it is clear that even where a service provides a public benefit, if it also provides a special benefit to the recipient of the service, fees may be charged. No allocation of benefits is necessary. *See: Electronics Industries Assoc.* v. *F.C.C.*, 544 F. 2d 1109 (D.C. Cir. 1976).

In non-routine inspections the beneficiary is clearly identified and the specific benefit falls within the Commission's judicially approved fee guidelines. The non-routine inspection is a service necessary to assist a recipient in complying with statutory obligations or obligations under the Commission's regulations as in routine inspections.

No fees will be assessed for investigations conducted by the NRC Office of Investigations. These investigations are outside the definition of inspections. In addition, non-routine inspections that result from third party allegations will not be subject to fees and in computing an inspection fee the hours of the Enforcement Staff, Office of Inspection and Enforcement, involved in the processing and issuance of a notice of violation or civil penalty would be excluded.

Medical Program Fees

The largest block of comments came from physicians, hospitals or their representatives. The majority of these comments expressed the opinion that the proposed increase is excessive and will adversely affect patients' medical costs. It was also mentioned that the Government has cut medicare and medicaid payments. The currently effective schedule of fees was based on fiscal year 1977 costs and the fee for a medical program (except teletherapy) was set at $190 for a new license: $150 for a license renewal; and $40 for an amendment. Because licenses are issued for five-year periods, the average cost for a new license amounted to less than $40 per year. In the revised schedule, the charge for a new license would be $580, or a little more than $100 per year for all medical licenses except for a new license fee category, the broad scope research and development license issued to some major medical institutions. The license fee for the broad scope license is $1,200 for five years, or an average of $240 per year. If the full cost of license fees was passed on to patients, it would result in a relatively minor increase in cost per patient.

Other Comments

There were comments that the NRC could reduce costs of licensing uranium milling activities by eliminating the requirement for the full National Environmental Policy Act (NEPA) environmental impact statement (EIS) for each application through the use of generic environmental statements supported by experience the NRC has gained to date through the licensing and inspection of uranium mining operations. The NEPA reviews being questioned generally fit into three types: first, new uranium mills; second, renewal of uranium mill licenses; and third, *in-situ* solution mining operations.

For the first type, 10 CFR Part 51 of the Commission's regulations requires that an EIS be prepared. The Commission believes these rules are consistent with NEPA and the regulations of the Council on Environmental Quality. As for the second type review, the issue may be moot. Before the issuance of the Generic Environmental Impact Statement on Uranium Milling (GEIS), NRC had committed itself to doing an EIS at the time of the license renewal for existing mills and to continue this practice until the issuance of the GEIS. When the GEIS was issued, essentially all mills had been evaluated and EIS's issued. It has been NRC policy to perform an environmental assessment at the time of license renewal to determine whether a full EIS should be prepared for the renewal. Absent any significant changes, a negative declaration is the usual result. As for the third type of application, *in-situ* mining operations, the matter is currently being considered by the Commission's legal staff to determine if there is any mandatory requirement for an EIS.

One person commented as to why the proposed fee range for review of an application for an *in-situ* mining operation is higher than the applicant's cost to prepare the application. A large part of NRC review costs are incurred in preparation of the EIS. NRC costs for preparation of the EIS are comparable to those of the Corps of Engineers, GSA, EPA and FHA, based on an August 9, 1977 GAO report to the U.S. Senate with figures updated to cover inflation.

Another factor that has a significant impact on licensing costs is the quality of the information and completeness of the application. In fact, there is a direct relationship between costs of review and the completeness and quality of an application, and this is under the control of the applicant.

Several commenters suggested that facilities and major fuel cycle applicants and licensees be billed for licensing services on a more frequent basis than at six-month intervals, e.g., on a monthly or quarterly basis, or alternatively to continue the present procedure of billing when the license or permit is issued. No one billing frequency is satisfactory to all applicants and licensees. Consequently, the billing procedures in this final rule are the same as the procedures described in the proposed rule. Applicants will be billed for review and licensing costs at six-month intervals as the review progresses or when review of the application is completed, whichever is earlier, for those applications where fees are based on full costs. Licensees will be billed at the end of each calendar quarter for completed inspections where fees are based on full costs.

It was suggested that elimination of the present Commission policy whereby payment of standard reference design (nuclear steam supply system or balance of plant) review cost are deferred until the design is referenced in a utility application may serve as a disincentive to standardization of the nuclear industry. Prior to March 1978, the NRC recovered none of these costs. The 1978 rule contained a deferred payment plan where the fee would be collected as the design is referenced in an application filed by a utility. The fee would be paid in five installments as the first five units were referenced. Since 1978, the Commission has recovered none of its costs incurred in review of preliminary and final designs except for application fees. The staff expects that the final design approval for CESSAR-80 will be issued within the next several weeks, and at that time the Commission will recover a portion of its review costs. Under the Independent Offices Appropriation Act of 1952, the Commission has the responsibility to recover its costs of providing special benefits to identifiable recipients and in this instance, the services are rendered at the request of the vendor or architect-engineer.

One person commented that the costs of Part 55 reactor operator examinations should not be charged to the facility licensee since it is the reactor operator who receives the special benefit of the Part 55 license. Part 50 requires that applicants for reactor operating licenses have qualified reactor operators when the licenses are issued and subsequently to have approved requalification programs. The NRC must approve the licensee's initial program for qualifying reactor operators and its requalification/replacement programs. ≫An individual operator cannot be licensed apart from a facility. Accordingly, it is the utility which applies for certification and consequently is the beneficiary of the Part 55 licensing action.

Several persons commented that fees should be eliminated for amendments issued for the convenience of the Commission and where amendments are submitted solely to comply with changes in Commission rules and regulations. Fees are not imposed for amendments issued solely for the convenience of the Commission and for which there is no request or application.

On the other hand, applications submitted as a result of Commission rules, regulations, or requests for license amendments that are necessary to protect the public health and safety and environment are subject to fees.

One person said that licensees should not be penalized by fees for requesting an amendment which would exempt them or provide relief from a general Commission rule that may not be applicable to a particular type of facility. If a rule is not applicable to a particular type of facility there is no need to request relief from it. If a request for clarification of the rule's applicability is presented, such a request for clarification would not require a fee.

It was suggested that fees for small materials licensed programs should be based on full cost so that applicants filing well-prepared and complete applications would pay only their full costs. In the final rule the Commission has elected to continue to set fees for these licenses by dividing them into several fee categories based on the type of material, use, complexity of the review, and licensing experience. The alternative of imposing full cost for each review and inspection would impose a significant administrative burden and expense upon the NRC since more than 8,000 individual fee determinations would be required each year. The fee assessed for each category of small Part 30, 40 and 70 programs would continue to be based on the average cost of providing the service to the recipients.

Several commenters suggested that applicants/licensees be provided with advance estimates of costs for specific applications. It is neither feasible nor practical to anticipate in advance the nature and extent of any problems which may develop during the review of a complex application. Similarly, it is not possible to predict the responsiveness of an applicants/licensee to a request for information. In most instances, however, ceilings have been established for licensing actions and routine inspections based on historical data. In those cases where it is not practical to develop ceilings due to limited experience, an estimate of costs could be made available based on a preliminary review of the application.

Several commenters expressed the idea that applicants/licensees should be able to audit NRC costs. Staff hours used in the review of an application/request are recorded against a docket or other control number assigned to the request. Likewise, inspection effort including preparation time, time on site, and documentation time are charged to an inspection report and recorded. Thus, where fees are to be based on full cost, staff time will be reviewed on a case-by-case basis. Any contractual costs will also be charged against a docket or control number. Therefore, a detailed statement of costs can be provided to an applicant/licensee upon request. Where questions arise on a particular fee, the NRC is prepared to review the disputed charge with the applicant or licensee representative.

Since 1978, the NRC has used professional staff hours and contractual services costs data to bill construction permit, operating license and other major fuel cycle applicants for licensing services. This final rule will also require full cost recovery for inspection of these licensees and for license amendments for facilities up to a specified ceiling or maximum limit.

Summary of Changes Incorporated in Final Rule

1. In most instances, except for non-routine inspections, where fees are based on professional staff hours and contractual services costs expended for the review, a ceiling or maximum has been established for each fee category.

2. Investigations conducted by the Office of Investigations will not be subject to fees.

3. Non-routine inspections that result from third-party allegations will not be subject to fees. In computing an inspection fee the time involved by the Enforcement staff, Office of Inspection and Enforcement, in the processing and issuance of a notice of violation or civil penalty would be excluded.

4. In § 170.21, fee Category B, "Standard Reference Design Review," has been revised to add the terms "Preliminary" and "Final" for clarity. Category D in this section has been revised to be applicable only to "Manufacturing License" applicants and licensees since Category A covers those utility applicants referencing the design.

5. Footnote 2 to § 170.21 has been revised to state how the fee will be determined where an application may cover a one-step licensing process for power reactors, e.g., a combined review of the construction permit and operating license.

6. Section 170.41, "Failure by applicant or licensee to pay prescribed fees," has been revised to incorporate other Commission regulations that are pertinent to this part.

7. The scope of Part 170 has been broadened by adding a new § 170.2(n) that will apply to the requirements of 10 CFR Part 61.

8. Section 170.3 has been revised as follows:

(s) To delete the term "fuel reprocessing facilities," and the language "amendment or renewal of standardized reference design approvals" since these items are covered in § 170.21. The term "special projects" is further defined and additional examples given.

(t) To eliminate investigations conducted by the NRC Office of Investigations.

(v) Revised to emphasize that Part 55 reviews include such things as preparation, review, and grading of examinations and tests.

9. In § 170.31, fee Category 9, "Device, Product or Sealed Source Safety Evaluation," has been expanded to add two fee categories for the review of devices or sealed sources. The categories cover devices and sealed sources not intended for commercial distribution.

10. Several fee categories were re-established in §§ 170.31 and 170.32 to maintain a ceiling or maximum fee as a result of comments received.

11. In most cases, ceilings or maximum fees and billing frequencies have been re-established for the inspection fee schedule in § 170.32.

12. A new § 170.51, "Right to review and appeal of the Prescribed Fees," has been added to address concern about appeal rights relating to the assessment of fees.

Fee Collection

The NRC billing procedure is revised so that applicants pay review and licensing costs (professional staff hours and contractual) as the review progresses for those applications where fees are determined based on the full costs expended for the review. In certain instances full cost fees are limited by a ceiling. Under the revised procedure, charges will be assessed against all applicable applications currently on file with the Commission for permits, licenses, approvals, or special projects, except applications for renewals, amendments, and other required approvals for which fees have already been paid in accordance with the March 23, 1978 fee schedule and complete and acceptable special project applications filed prior to March 23, 1978. Accordingly, for those applications currently on file for which fees are determined based on full review costs, the professional staff hours expended for the review of the application up to the effective date of the revised rule will be determined and the billing for that time period will be based on the professional staff rates established for the March 23, 1978 fee schedule. On or after the effective date of this final rule, the professional rates shown in § 170.20 will be used. For those applications currently on file, the first itemized billing for NRC services based on full costs will be made when this final rule becomes effective and continue every six months thereafter as work progresses or when review of the application is completed, whichever is earlier. For applications filed on or after the effective date of this final rule, itemized billings for NRC services based on full costs will be made at six-month intervals for all costs accumulated on each application. The revised billing procedure will enable the applicant to pay for work as it progresses. Under this rule, all applications that are to be assessed fees on a full cost basis are to be accompanied by the application fee specified in this part. In no event will the fee assessed exceed the full costs of reviewing an application, and in no circumstance will the applicant pay less than the application fee specified in this rule. Fees for applications not subject to full-cost charges will remain payable at the time the applications are filed with the Commission.

For those inspection fees that are to be based on full cost (professional staff hours and contractual), the Commission will bill each licensee at the end of each calendar quarter for completed inspections that were initiated on or after the effective date of this final rule. Inspection fees based on the average cost method of computation will continue to be due upon notification by the Commission.

Licensees currently billed once a year for inspections (Part 50 power reactor licensees, other production and utilization facility licensees, and possession-only licensees) will be billed under this final rule on a pro-rated basis for any partial year elapsed (less than 365 days) since they were last billed under the 1978 rule. That is, if 20 days have elapsed from the last billing period to the effective date of this final rule, the licensee would be billed 20/365 of the total fee as prescribed in the 1978 rule. Thereafter, those licensees will be billed quarterly based on the rates shown in 10 CFR 170.20 for inspections initiated on or after the effective date of this final rule. These pro-rated billings will be made when this final rule becomes effective. For those licensees who hold licenses that are billed on a per-inspection basis (small materials programs) if the inspection is started before the effective date of this final rule, the licensee will be billed in accordance with the fees established in the 1978 rule.

All revenues collected in fees by the NRC for providing licensing and inspection services to applicants and licensees have been and will continue to be deposited into the U.S. Treasury as miscellaneous receipts, and not used as an offset to the NRC appropriation.

Paperwork Reduction Act Statement

The final rule contains no information collection requirements and therefore is not subject to the requirements of the Paperwork Reduction Act of 1980 (44 U.S. 3501 et seq.).

Regulatory Flexibility Certification

In the notice of proposed rulemaking published on November 22, 1982 (47 FR 52454), the Commission determined in its Regulatory Flexibility Certification that, based upon the available information, this rule was not expected to have a significant economic impact upon a substantial number of small entities as defined by the Small Business Act or the Small Business Administration regulations issued pursuant to the Act (13 CFR Part 121). The Commission did, however, invite any licensee who considered itself to be a small entity to provide additional information by responding to four general questions on how the regulation could be modified to take into account the differing needs of small entities. In keeping with its normal practice, the Commission also mailed the proposed rule document to each of its more than 9,000 licensees.

The Commission received 129 comments on the proposed rule, representing less than two percent of all NRC licensees. Of the 129 comments, only one mentioned the Regulatory Flexibility issue directly, recommending that NRC tier its license fees to charge smaller licensees reduced fees for licensing actions.

A total of 15 comments are believed to have come from small entities based upon a review of information contained in their comments. Six of these comments were from small hospitals, six from small radiology firms, one from a small uranium milling company, and two from other small materials licensees.

Each of the small hospitals, small radiology firms and two of the remaining small entities which commented were subsequently contacted by the Commission staff in an effort to obtain further information concerning the economic impact of the revised fee rule on their operation.

The license application fee would represent an increase of approximately $500–$1000 for each of the small hospitals (defined as a hospital with fewer than 150 beds by the Small Business Administration regulations, 13 CFR 121.3–10(d)(5)). When apportioned over the five-year life of the license, this increase would result in an annual increase of $200 or as estimated by one hospital administrator, by about fifty cents for each procedure conducted by the nuclear medicine department. Most hospitals do not, however, have broad medical licenses and the annual increase in application fees would be about $80. Other fees for license amendments and inspections, while not assessed on an annual basis, would occur as needed for amendments and inspections. The increase in fees for a routine inspection, which is generally conducted every one or two years, would be $280.

The license fee revision for the small radiologist groups, most of which are associated with hospitals, are almost identical to those for the small hospitals.

The three remaining comments from various small materials licensees raised a number of concerns not specifically related to the regulatory flexibility issue posed by the Commission in its Certification Statement. A small uranium mine company commented on the lack of a specific upper limit on licensing fees which will be assessed on a full-cost basis for in-situ mining licenses. On the other hand, a small company with a gauging license and another with an irradiator license commented that their license application fees should be based on full costs rather than an average cost established for whole licensing categories. None of these licensees, when contacted, indicated that this revised fee rule would have serious economic implications for their businesses.

Based upon the number of comments received on the proposed rule, analysis of the comments, and the additional information obtained from small entities, the Commission finds, and hereby certifies, that this rule will not have signifcant economic impact upon a substantial number of small entities.

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, and Sections 552 and 553 of Title 5 of the United States Code, the following amendments to Title 10, Chapter 1, Code of Federal Regulations, Part 170 are published as a document subject to codification.

List of Subjects in 10 CFR Part 170

Byproduct material, Nuclear materials, Nuclear power plants and reactors, Penalty, Source material, Special nuclear material.

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49 FR 24113
Published 6/12/84

10 CFR Part 170

Revision of License Fee Schedule

Correction

In FR Doc. 84–13517 beginning on page 21293 in the issue of Monday, May 21, 1984, make the following corrections:

1. On page 21293, second column, the **EFFECTIVE DATE** now reading "June 18, 1984" should read "June 20, 1984".

2. On the same page, third column, second complete paragraph, line four, "developed" should read "developing".

3. On page 21294, first column, line eleven, "Broadcaster" should read "Broadcasters".

4. On the same page, first column, line seventeen, "*Commission*" should read "*Communication*".

5. On page 21295, first column, **Elimination of Ceilings**, paragraph three, first line, "not" should read "no".

6. On page 21296, first column, second complete paragraph, line eighteen, "four" should read "for".

7. On the same page, third column, first complete paragraph, line three, "efective" should read "effective".

8. On page 21297, first column, first complete paragraph, line thirteen, "335" should read "355".

9. On page 21299, third column, first complete paragraph, insert the sentence "An individual operator cannot be licensed apart from a facility." between lines fourteen and fifteen.

10. On page 21300, third column eleventh line from the bottom, "that" should read "than".

11. On page 21301, first column, **Regulatory Flexibility Certification**, line fourteen, "consider" should read "considered".

§ 170.21 [Corrected]

13. On page 21304, first column, footnote one, line five "a" should appear before "specific"; and in line fourteen, "of" should read "or".

14. On the same page, first column, footnote two, line twenty, "ahs" should read "has".

§ 170.31 [Corrected]

15. On page 21305, column one, § 170.31, entry 3.B., line seven, "licensees" should read "license"; entry 3.E., line one, "uses" should read "use"; and in entry 3.G., line one "uses" should read "use".

16. On the same page, column two, entry 3.K., line eight, "licensers" should read "licenses".

17. On the same page, column three, entry 5.B. line five, "Licenes" should read "License".

18. On page 21306, column three, footnote 1(d), line sixteen, "in" should appear between "10F," and "which".

19. On the same page, column three, footnote 2, first line, "or" should read "for".

§ 170.32 [Corrected]

20. On page 21307, § 170.32, column one of the table, entry 2.A., line four, "ion-exchanging" should read "ion-exchange"; also in entry 2.B., line one, "possession" should read "processing".

21. On the same page column four of the table, the eleventh and twelfth entries from the bottom, should appear as one entry read "1 per 7 year per inspection"; entries seven and eight from the bottom should appear as one entry reading "1 per year per inspection"; and entries three and four from the bottom should appear as one entry reading "1 per 2 years per inspection".

22. On page 21308, first column in the table, entry K, second line, "times" should read "items"; and in entry P, first line, "materaial" should read "material"

23. On the same page, column four in the table, lines three and four should appear as one entry reading "1 per year

per inspection"; lines seven and eight should appear as one entry reading. "1 per 3 years per inspection"; lines nine and ten should appear as one entry reading. "1 per 3 years per inspection"; lines eleven and twelve, should appear as one entry reading. "1 per 3 years per inspection"; lines thirteen and fourteen should appear as one entry reading. "1 per 3 years per inspection"; and lines fifteen and sixteen should appear as one entry reading. "1 per 3 years per inspection".

§ 170.51 [Corrected]

24. On page 21309, column one, § 170.51, line six, "10 CFR 51.31" should read "10 CFR 15.31".

UNITED STATES NUCLEAR REGULATORY COMMISSION
RULES and REGULATIONS
TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

COMMISSION NOTICES

POLICY STATEMENTS

42 FR 10950
Published 2/24/77

ABNORMAL OCCURRENCE REPORTS

Implementation of Section 208, Energy Reorganization Act of 1974; Policy Statement

BACKGROUND

Section 208 of the Energy Reorganization Act of 1974 (Pub. L. 93–438, 42 U.S.C. 5848) provides that:

> The Commission shall submit to the Congress each quarter a report listing for that period any abnormal occurrences at or associated with any facility which is licensed or otherwise regulated pursuant to the Atomic Energy Act of 1954 as amended, or pursuant to this Act. For the purpores of this section, an abnormal occurrence is an unscheduled incident or event which the Commission determines is significant from the standpoint of public health or safety. Nothing in the preceding sentence shall limit the authority of a court to review the determination of the Commission. Each such report shall contain—
>
> (1) The date and place of each occurrence;
> (2) The nature and probable consequence of each occurrence;
> (3) The cause or causes of each; and
> (4) Any action taken to prevent reoccurrence.
>
> The Commission shall also provide as wide dissemination to the public of the information specified in clauses (1) and (2) of this section as reasonably possible within fifteen days of its receiving information of each abnormal occurrence and shall provide as wide dissemination to the public as reasonably possible of the information specified in clauses (3) and (4) as soon as such information becomes available to it.

On March 17, 1975, the Commission published a notice in the FEDERAL REGISTER "Reporting of and Dissemination of Information Concerning Abnormal Occurrences." (40 FR 12166). The notice stated that the Commission has under active consideration the formulation of proposed amendments to its regulations to facilitate implementation of Section 208 of the Energy Reorganization Act of 1974 and that an appropriate notice of proposed rulemaking would be published in the FEDERAL REGISTER for public comment before any amendments are adopted. Since implementation involves the conduct of Commission business and does not impose requirements on licensees, the Commission is not proposing amendments to its regulations but is instead issuing a general statement of policy.

In July 1975, in the exercise of the authority conferred upon it by Congress to determine which unscheduled incidents or events are significant from the standpoint of public health or safety and are reportable as abnormal occurrences, the Commission developed interim criteria for evaluating licensee events. On the basis of these criteria and as required by Section 208, the Commission has issued five quarterly reports to Congress on abnormal occurrences. The five reports are: (1) NUREG 75–090, Report to Congress on Abnormal Occurrences, January–June 1975, dated October 1975; (2) NUREG 0090–1, Report to Congress on Abnormal Occurrences, July–September 1975, dated March 1976; (3) NUREG 0090–2, Report to Congress on Abnormal Occurrences, October–December 1975, dated March 1976; (4) NUREG 0090–3, Report to Congress on Abnormal Occurrences, January–March 1976, dated July 1976; and (5) NUREG 0090–4, Report to Congress on Abnormal Occurrences, April–June 1976, dated October 1976. These reports are available from the National Technical Information Service, Springfield, Virginia 22161.

Based on its experience to date in the preparation and issuance of abnormal occurrence reports, the Commission has decided that its responsibilities under Section 208 can be carried out more effectively if the interim criteria now used to identify abnormal ocurrences are further refined. Accordingly, the Commission is issuing this general statement of policy which describes the manner in which the Commission will, as part of the routine conduct of its business, carry out its responsibilities under Section 208 of the Energy Reorganization Act of 1974 for identifying abnormal occurrences and making the requisite information concerning each such ocurrence available to the Congress and the public in a timely manner. Included in the policy statement are revised criteria which the Commission will use in determining whether a particular event is a reportable abnormal occurrence within the meaning of Section 208. It is expected that as additional experience is gained, further changes in the criteria may be required.

ABNORMAL OCCURRENCE CRITERIA

The criteria contained in the general statement of policy have been developed to comply with the legislative intent of Section 208—to keep Congress and the public informed of unscheduled incidents or events which the Commission considers significant from the standpoint of public health or safety. The criteria reflect a range of health and safety concerns and are applicable to events involving a single occupational worker as well as those having an overall impact on the general public.

The criteria establish a threshold for reporting. Occurrences that meet or exceed the threshold wil be reported as abnormal occurrences. The Commission has established the reporting threshold at a level which will assure that all events likely to be of significance from the standpoint of public health or safety will be reported. At the same time, by placing the reporting threshold generally above the level of events required to be reported to the NRC, the Commission will not report for Section 208 purposes those events reported by licensees which involve some variance from regulatory limits but which are not significant from the standpoint of public health or safety.

LICENSEE REPORTS

This general statement of policy will not change the reporting requirements imposed on NRC licensees by Commission regulations, license conditions or technical specifications. NRC licensees will continue to submit required reports on a wide spectrum of events, including such events as minor instrument malfunctions and slight deviations from normal operating procedures which are without significance from the standpoint of the public health or safety but which provide data useful to the Commission in monitoring operating trends of nuclear power facilities and in comparing the actual performance of these facilities with the potential performance for which the facilities were designed. In accord with present policy, information

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[1] The interim criteria are set out in an appendix to each report to Congress on abnormal occurrences.

relating to all events reported to the NRC will continue to be made available to Congress and placed in the NRC Public Document Rooms for public perusal. Information can also be obtained by writing the Nuclear Regulatory Commission, Public Document Room, Washington, D.C. 20555. In addition, the Commission will continue to issue news announcements on events that seem to be newsworthy regardless of whether or not the events are designated abnormal occurrences.

The Commission invites all interested persons who desire to submit written comments or suggestions on the abnormal occurrence criteria in this general statement of policy and on the examples of abnormal occurrences in Appendix A thereto, to send them to the Secretary of the Commission, United States Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch by May 25, 1977. Consideration will be given to such submissions in connection with possible future revision of the criteria. Copies of comments received by the Commission may be examined at the Commission's Public Document Room, 1717 H Street, NW, Washington, D.C.

General Statement of Policy on Implementation of Section 208 of the Energy Reorganization Act of 1974, as Amended

1. *Applicability.* Implementation of Section 208, Abnormal Occurrences Reports, involves the conduct of Commission business and does not impose requirements on licensees. Reports will cover certain unscheduled incidents or events related to the manufacture, construction, or operation of a facility or conduct of an activity subject to the requirements of Parts 30, 40, 50, 70 or 71 of Chapter 1, Title 10, Code of Federal Regulations.

2. *Definition of terms.* As used in this statement: (a) An abnofmal occurrence subject to the provisions of Section 208 of the Energy Reorganization Act of 1974 means an unscheduled incident or event at or associated with any activity or facility which is licensed or otherwise regulated pursuant to the Atomic Energy Act of 1954, as amended, or pursuant to the Energy Reorganization Act of 1974, which the Commission determines is significant from the standpoint of public health or safety.

3. *Abnormal Occurrence criteria.* The Commission will apply the following critria in determining whether an event at a facility or involving an activity licensed or otherwise regulated by the Commission is an abnormal occurrence within the purview of Section 208 of the Energy Reorganization Act of 1974. Events determined to be at or above the threshold established by the criteria will be subject to the reporting and public information requirements of Section 208 of the Energy Reorganization Act of 1974.

(a) An event will be considered an abnormal occurrence if it involves a major reduction in the degree of protection of the public health or safety. Such an event would involve a moderate or more severe impact on the public health or safety and could include but need not be limited to:

(1) Moderate exposure to, or release of, radioactive material licensed by or otherwise regulated by the Commission;

(2) Major degradation of essential safety-related equipment; or

(3) Major deficiencies in design, construction, use of, or management controls for licensed facilities or material.

Examples of types of events which might be determined to be abnormal occurrences in accordance with these criteria are set out in Appendix A of this general statement of policy.

4. *Commission dissemination of abnormal occurrence information.* (a) The Commission will provide as wide a dissemination of information to the public as reasonably possible.[3] A Federal Register Notice will be issued on each abnormal occurrence with copies distributed to the NRC Public Document Room and all local public document rooms. When additional information is anticipated the notice will indicate that the information can be obtained at the NRC Public Document Room and in all local public document rooms.

(b) Each quarter, the Commission will submit a report to Congress listing for that period any abnormal occurrences at or associated with any facility or activity which is licensed or otherwise regulated pursuant to the Atomic Energy Act of 1954, as amended, or pursuant to the Energy Reorganization Act of 1974, as amended. This report will contain the data, place, nature and probable consequence of each abnormal occurrence the cause or causes of each abnormal occurrence and an action taken to prevent recurrence.

Appendix A'—Examples of Abnormal Occurrences

Examples[4] of types of events which might qualify as abnormal occurrences under the criteria in paragraph 3 of the General Statement of Policy are listed. These examples are hypothetical only. Whether a particular event will be determined to be an abnormal occurrence will depend on the specific facts and circumstances of the event.

I. *For all Licensees:*

A. Human Exposure to Radiation from Licensed Material:

1. Exposure of the whole body of any individual to 25 rems or more of radiation; exposure of the skin of the whole body of any individual to 150 rems or more of radiation; or exposure of the feet, ankles, hands or forearms of any individual to 375 rems or more of radiation (10 CFR 20.403(a) (1)), or equivalent exposures from internal sources.

2. An exposure to an individual in an unrestricted area such that the whole body dose received exceeds 0.5 rems in one calendar year (10 CFR 20.105(a)).

B. Discharge or Dispersal of Radioactive Material from its Intended Place of Confinement:

1. The release of radioactive material to an unrestricted area in concentrations which, if averaged over a period of 24 hours, exceeds 500 times the regulatory limit of Appendix B, Table II, 10 CFR Part 20 (10 CFR 20.403 (b)).

2. Radiation or contamination levels in excess of design values on packages or loss of confinement of radioactive material such as: (a) a radiation dose rate of 1,000 mrem per hour three feet from the surface of a package containing the radioactive material, or (b) release of radioactive material from a package in amounts greater than the regulatory limit (10 CFR 71.36(a)).

C. Theft, Diversion, or Loss of Licensed Material, or Sabotage or Security Breach;[4]

1. Any loss of licensed material in such quantities and under such circumstances that substantial hazard may result to persons in unrestricted areas.

2. A substantiated case of actual or attempted theft or diversion of licensed material or sabotage of a facility.

3. Any substantiated loss of special nuclear material or any substantiated inventory discrepancy which is judged to be significant relative to normally expected performance and which is judged to be caused by theft or diversion or by substantial breakdown of the accountability system.

4. Any substantial breakdown of physical security or material control (i.e., access control, containment, or accountability systems) that significantly weakened the protection against theft, diversion, or sabotage.

D. Other Events (i.e., concerning design, analysis, construction, testing, operation, use or disposal of licensed facilities or regulated materials);

1. An accidental criticality (10 CFR 70.52 (a)).

(2) A major deficiency in design, construction or operation having safety implication requiring immediate remedial action.

3. Serious deficiency in management or procedural controls in major areas.

4. Series of events (where individual events are not of major importance), recurring incidents, and incidents with implications for similar facilities (generic incidents), which create major safety concern.[5]

II. *For Commercial Nuclear Power Plants:*

A. Malfunction of Facilities, Structures or Equipment:

1. Exceeding a safety limit of license Technical Specifications (10 CFR 50.36(c)).

2. Major degradation of fuel integrity, primary coolant pressure boundary, or primary containment boundary.

3. Loss of plant capability to perform essential safety functions such that a potential release of radioactivity in excess of 10 CFR Part 100 guidelines could result from a postulated transient or accident (e.g., loss of emergency core cooling system, loss of control rod system).

B. Design or Safety Analysis Deficiency, Personnel Error, or Procedural or Administrative Inadequacy:

1. Discovery of a major condition not specifically considered in the Safety Analysis Report (SAR) or technical specifications that require immediate remedial action.

2. Personnel error or procedural deficiencies which result in loss of plant capability to perform essential safety functions such that a potential release of radioactivity in excess of 10 CFR Part 100 guidelines could

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[3] Information relating to certain incidents may either be classified or under consideration for classification because of national security implications. Classified information will be withheld when formally reporting these incidents per Section 208. Any classified details regarding such incidents would be available to the Congress, upon request, under appropriate security arrangements.

[4] These examples are not all inclusive. Other incidents of similar significance will be considered for reporting.

[4] Information relating to certain incidents may either be classified or under consideration for classification because of national security implications. Classified information will be withheld when formally reporting these incidents per Section 208. Any classified details regarding such incidents would be available to the Congress, upon request, under appropriate security arrangements.

result from a postulated transient or accident (e.g., loss of emergency core cooling system, loss of control rod system).

III. *For Fuel Cycle Licensees:*

A. For Reprocessing Facilities:

1. A safety limit of license Technical Specifications is exceeded and a plant shutdown is required (10 CFR 50.36 (c)).

2. A major condition not specifically considered in the Safety Analysis Report or technical specifications that required immediate remedial action.

B. All Fuel Licensees:

1. An event which seriously compromised the ability of a confinement system to perform its designated function.

Effective date: This general statement of policy shall be effective February 24, 1977.

Dated at Washington, D.C. this 23rd day of February, 1977.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission.

42 FR 5150
Published 1/27/77

Licensees Authorized to Possess or Transport Strategic Quantities of Special Nuclear Materials; Memorandum and Order

See Part 70 Immediately Preceding the Proposed Rule Making Section.

43 FR 1565
Published 1/10/78

PROGRAM FOR RESOLUTION OF GENERIC ISSUES RELATED TO NUCLEAR POWER PLANTS

Report to Congress

Notice is hereby given that in accordance with the reporting requirements of Section 210 of the Energy Reorganization Act of 1974, as amended, the Nuclear Regulatory Commission has published and issued a report to Congress entitled "NRC Program for the Resolution of Generic Issues Related to Nuclear Power Plants." The release date is January 1, 1978.

The Energy Reorganization Act of 1974 was amended by Pub. L. 95-209 on December 12, 1977, to include a new section 210 as follows:

UNRESOLVED SAFETY ISSUES PLAN

Sec. 210. The Commission shall develop a plan providing for specification and analysis of unresolved safety issues relating to nuclear reactors and shall take such action as may be necessary to implement corrective measures with respect to such issues. Such plan shall be submitted to the Congress on or before January 1, 1978, and progress reports shall be included in the annual report of the Commission thereafter.

In October 1976, the Commission directed the NRC staff to develop the generic issues program described in the report, and development and implementation of the program has proceeded over the past year. The NRC program, as developed by the staff, is considerably broader than the "Unresolved Safety Issues Plan" required by section 210. It includes plans for the resolution of generic environmental issues, for the development of improvements in the reactor licensing process, and for consideration of less conservative design criteria or operating limitations in areas where present requirements may be unnecessarily restrictive or costly.

The NRC program described in the report provides for the identification of generic issues, the assignment of priorities, the development of detailed Task Action Plans, projections of dollar and manpower costs, continuous high level management oversight of task progress, and public dissemination of information related to the tasks as they progress. The report indicates that the program is expected to be fully operational by the end of February 1978 and that six of the highest priority (Category A), generic tasks are currently scheduled for completion in fiscal year 1978. One of the Category A tasks was completed in December 1977.

Interested persons may review the report at the NRC's Public Document Room, 1717 H Street NW., Washington, D.C. The report, designated NUREG-0410, may be purchased from the National Technical Information Service, Springfield, Va. 22161, at $14.50 a copy on or about January 17, 1978.

43 FR 4294
Published 2/1/78

CAMERA COVERAGE OF HEARINGS BEFORE ATOMIC SAFETY AND LICENSING BOARDS AND ATOMIC SAFETY AND LICENSING APPEAL BOARDS

General Statement of Policy

The Nuclear Regulatory Commission has considered requests from television stations and newspapers to permit the use of cameras during proceedings before Atomic Safety and Licensing Boards and Atomic Safety and Licensing Appeal Boards. In the past the NRC has permitted cameras to be used only before and after adjudicatory sessions and during recesses. The Commission has decided that, on a trial basis, it will permit the use of television and still cameras by accredited news media under certain conditions. Cameras may be used by news media during hearings and related public proceedings before Atomic Safety and Licensing Boards and Atomic Safety and Licensing Appeal Boards provided they do not require additional lighting beyond that required for the conduct of the proceeding and are stationed at a fixed position within the hearing room throughout the course of the proceeding. It will continue to be the practice of the hearing and appeal boards to use Federal or State court rooms when these facilities are available and in such cases the policy of those courts in regard to the use of cameras will be observed.

The Commission plans to reassess this policy in about six months after its hearing and appeal boards have had sufficient experience with camera coverage to determine whether it can be carried out without disruption to the proceeding or unacceptable distraction to the participants.

43 FR 28058
Published 6/28/78

DOMESTIC LICENSE APPLICATIONS

Open Meetings and Statement of NRC Staff Policy

The Nuclear Regulatory Commission's (NRC's) regulations in 10 CFR 2.102 permit applicants to confer informally with the NRC technical staff during reviews of domestic license or permit applications. These meetings have served as an essential means for the exchange of technical information and views necessary for the technical review of applications. For several years other parties or potential parties to domestic licensing proceedings, as well as members of the general public, have, upon request, been permitted to attend applicant-NRC technical staff meetings as observers. However, the Commission's regulations do not require that others be permitted to attend such informal meetings between applicant and staff, and the general practice being followed in this regard has never been formally articulated. This statement is intended to provide such articulation. It is also noted that this matter is related to the provision for increased public participation which was approved by the Commission during its consideration of NUREG 0292 (Denton Report).

As a general matter, the Commission and staff try to involve concerned citizens in any Commission activity in which they have expressed an interest. All meetings conducted by the NRC technical staff as part of its review of a particular domestic license or permit application (including an application for an amendment to a license or permit) will be open to attendance by all parties or petitioners for leave to intervene in the case. These meetings are intended by the NRC technical staff to facilitate an exchange of information between the applicant and the staff. It is expected that the NRC technical staff and the applicant will actively participate in the meeting. Others may attend as observers. Likewise, when meetings are scheduled between the staff and other parties or petitioners, applicants would be permitted to attend only as observers.

The general policy of open meetings described above will admit of only a few exceptions, which must be approved by the Director of the relevant division. For example, some persons may not be permitted to attend meetings where classified or proprietary information (including sensitive safeguards information) is to be discussed. The NRC staff will prepare a written summary of the unclassified and nonproprietary portions of such meetings and forward the summary to interested persons unable to attend so that they will be informed of what transpired at the meeting. However, attendance will not be limited solely because preliminary opinions, recommendations, or advice will be offered on the merits of the applications during the meeting.

When a party or petitioner for leave to intervene requests, reasonable efforts will be made by the NRC staff to inform the party or petitioner of forthcoming meetings conducted by the NRC technical staff so that appropriate arrangements for attendance can be made. It is recognized that in some cases the need for a prompt meeting may make it impossible or impracticable to notify all parties and petitioners. The policy described above also cannot practicably be applied to chance encounters between NRC technical staff personnel and other parties or petitioners but such chance encounters will not be permitted to serve as a source of information for the conduct of licensing reviews.

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43 FR 38954

Published 8/31/78

STATEMENT ON STANDARDIZATION OF NUCLEAR POWER PLANTS

The initial statement of the Atomic Energy Commission (AEC) on standardization of nuclear power plants was issued in April 1972. In March 1973, the AEC announced the staff's readiness to implement the standardization policy utilizing three distinct concepts; namely, the manufacturing license concept, the duplicate plant concept, and the reference system concept. In August 1974, the AEC announced that the replicate plant concept would be acceptable as a transitional step toward standardization. The AEC was abolished and its regulatory responsibilities assigned to the newly formed Nuclear Regulatory Commission (the Commission) on January 19, 1975. On June 29, 1977, the Commission issued a statement that reaffirmed its support of standardization and requested comments and suggestions on proposed new guidance developed by the staff and on other steps that the Commission might undertake to further encourage standardization. The statement, which was published in the FEDERAL REGISTER on July 5, 1977, also noted staff plans to use such comments and suggestions in its continuing study of standardization.

On the basis of its study, the staff has concluded that certain changes to the Commission's standardization program should be implemented, and that these changes can be implemented within existing regulations. The staff has further concluded that the program, as changed, will continue to allow applicants to utilize a variety of design options in ways that can avoid the development of significant adverse antitrust consequences. The Commission continues to recognize its responsibility to provide a standardization program that can be used effectively without contributing to such concerns. The standardization program has been guided by this principle from its inception and it is our intent that this should continue. The staff discussed the revised standardization program with the Department of Justice. While the Department of Justice did not conduct an independent evaluation, which in its opinion would be unnecessarily duplicative, it did review the results of the staff's efforts. That review did not identify any antitrust concerns inherent in the revised standardization program beyond those perceived by the staff. However, the potential exists that improper utilization of the standardization program by applicants may lead to these antitrust concerns. Accordingly, the staff will monitor the standardization program to assure that each applicant properly considers antitrust matters in developing or using standard designs. The staff will take appropriate action if it detects the development of a situation that appears to have the potential for creating problems of an antitrust nature.

The staff has prepared a report of its study; the report provides a summary of the information used in the study, presents the public comments received in response to the Commission's prior statement, and presents the staff's assessment of this information in support of its conclusions and recommendations. The Commission has reviewed these recommendations with the staff. The specific actions to be taken by the staff are described in the following discussion.

REFERENCE SYSTEM CONCEPT

The reference system concept involves the approval of a standard design for most of a nuclear plant or a major fraction of a nuclear plant outside of the context of an application for a construction permit or operating license. Approval by the staff is granted to a designer in the form of a preliminary design approval (PDA) or a final design approval (FDA). Twelve preliminary design approvals have been issued to date and 5 of the approved designs have been referenced in 11 construction permit applications. Staff approvals of such designs do not constitute Commission approval. Each utility application referencing a PDA must be subjected to a public hearing process prior to the award of a construction permit. No application for an FDA has yet been received. The Commission's policy statement of June 29, 1977, described two types of final design approvals then being considered by the staff; one was an FDA-1 which could be referenced only in operating license applications for plants whose construction permit applications referenced the corresponding PDA, and the other was an FDA-2 which could be referenced in applications for construction permits or combined construction permits and final design approvals for purposes of issuance of operating licenses.

PRELIMINARY DESIGN APPROVALS

To date, preliminary design approvals for nuclear island designs and for nuclear steam supply system designs have been issued for a period of 3-years; preliminary design approvals for balance of plant designs have been issued for a period of 3 years from the earlier date of the approval of the mating nuclear steam supply system design. These periods were selected considering the number of plant license applications anticipated at the time, the experience of changes in safety requirements that were then occurring with time, and the newness of the concept. Experience has shown the effectiveness of the preliminary design approval in construction permit application reviews. However, it is now apparent that, because of the prevailing depressed market for nuclear plants, the 3 year period of effectiveness used to date for the PDA limits the ability of an architect-engineer to develop balance of plant designs to mate with approved nuclear steam supply system designs well before the latter terminate, and thus obtain a reasonable return on investment by use of its designs in one or more plants. Considering these factors, the current low order rate for nuclear plants, which effectively reduces the number of units likely to use a specific standard design, and the significantly increased stability in licensing requirements obtained through use of the standard review plan (issued in November 1975) and the review of proposed changes in staff safety requirements by the Regulatory Requirements Review Committee (established in early 1974), the staff will increase the effective period of preliminary design approvals issued in the future from 3 to 5 years.

All preliminary design approvals issued to date for balance of plant designs are set to terminate 3 years after issuance of the earlier PDA for the mating nuclear steam supply system even if this results in a relatively short lifetime for the balance of plant PDA. The staff now views this requirement to be an unnecessary penalty on balance of plant designers. Accordingly, the staff will extend the period of each PDA already issued for a balance of plant design to 3 years from the date of its issuance, and will make each PDA for a balance of plant design issued in the future effective for a period of 5 years. If the PDA for the nuclear steam supply system has expired, the staff will still permit the mating standard balance of plant design to be referenced in a construction permit application will treat it as an approved standard design, provided that the application includes the information needed to update the nuclear steam supply system design which will be treated as a custom design.

Even though there will likely be some attendant delay in review time because of the reversal in the normal staff review routine, the staff considers this to be a practical procedure. However, the staff is not yet convinced that a PDA can be issued for a balance of plant design without prior or simultaneous issuance of a PDA for the nuclear steam supply system design to which the balance of plant design is mated. The possibility for acceptance of such a procedure in the future will be included in the staff's continuing study.

The staff will grant each current PDA-holder the opportunity to have the period of the PDA extended from the present 3-year term to a 5-year term. Staff approval of a design is based on a selected regulatory requirements cutoff date, which is a date near the end of the staff's safety review, after which the staff will not impose new requirements on the design unless they are essential to safety. This cutoff date is needed in order to permit a designer to complete the design for approval purposes. The application for extension of a PDA will need to provide the following information, related to four categories of safety significant requirements, established by the staff since the regulatory requirements cutoff date established for the PDA:

(1) A discussion of how the design has been or will be modified to conform to certain new staff safety requirements that the Director of Nuclear Reactor Regulation (Director, NRR) on the basis of recommendations from the Regulatory Requirements Review Committee (RRRC), has directed be implemented for current and new applications and backfitted on all approved nuclear plants and plant designs.

(2) A discussion of the extent, if any, to which certain other new staff safety requirements should be or have been implemented into the previously approved standard design and justification for any limited implementation. The Director, NRR, on the basis of recommendations from the RRRC, has directed that these safety requirements be implemented for new applications as of specified dates, and that all nuclear plants and plant designs, either previously approved or currently under review for approval, be reviewed to determine if and to what extent, considering the status of operation, construction, or design, these requirements should be backfitted on the plant or design.

(3) A discussion of the extent to which the approved design does in fact conform to all other staff safety requirements established since the regulatory requirements cutoff date for the approved standard design, and approved for implementation for new applications as of specified dates, by the Director, NRR, on the basis of recommendations from the RRRC, even though conformance will not be required for the approved design except under unusual circumstances and with the approval of the Director, NRR. The discussion should include the bases for the acceptability of deviations from the new requirements.

(4) A discussion of the extent to which the design conforms to certain other staff safety requirements that have been reviewed by appropriate NRR Division Directors and the Director, NRR, and approved for consideration in safety reviews pending review by the RRRC.

The staff will, upon request, inform a PDA-holder intending to request a PDA extension, of the specific matters that would be applicable to that specific design and which would need to be addressed in the application. An application for a PDA extension should be made, whenever possible, so that staff review can be completed prior to the expiration date of the existing PDA or as soon thereafter as is practical. The staff believes that, because of the limited number of matters that will need to be evaluated, it review can be completed within 8 months of the application.

Final Design Approvals

The staff has been informed by a number of architect-engineers that final design information of the form currently provided at the operating license stage of review for a plant under construction cannot practically be provided for a final design approval (FDA) for a balance of plant design, whether it be an FDA-1 or FDA-2, if referencing in subsequent construction permit applications (forward referencability) is permitted, without creating the potential for adverse antitrust consequences. They further contend that, even absent the antitrust concern, the development of FDA-1 or FDA-2 for forward referencability is not practical because it would require a major change in established modes of conducting business which were developed to respond to the needs of their clients.

On the other hand, the nuclear steam supply system vendors contend that their scopes of design and standard modes of business are such that they can provide final design information of the type now required for operating license reviews without fear of unwarranted adverse antitrust consequences.

In view of these differences, the staff has concluded that an alternate procedure is needed if the goal of one-stage licensing review of a complete nuclear plant is to be advanced. The staff believes that such an alternate procedure, involving the concept of a standard design approval (SDA), which would be issued in lieu of a combined PDA and FDA, can be developed, and would be applicable to nuclear steam supply system designs as well as to balance of plant designs. The SDA concept involves the submittal of information that is significantly more developed than that now provided for a preliminary design but somewhat less than that for a final design. It would be limited in many areas to complete functional specifications rather than to actual design drawings and specifications. It would also require a supplementary staff audit function during plant construction to verify that the actual components or features installed or constructed, adequately meet the approved functional specifications. The staff believes it can develop acceptable procedures to permit implementation of the concept; however, it will require a significant amount of time to do so. The staff will study the concept further in order to define the new procedures and practices that would need to be developed, including those addressed to antitrust considerations. It is of interest to note that the Department of Justice is of the opinion that the SDA concept would obviate most, if not all, of the antitrust concerns associated with the standardization program as perceived by the staff.

In the interim, the staff will accept FDA-1 applications from nuclear steam supply system vendors and architect-engineers who wish to obtain approval of a final design that may be referenced in operating licenses applications for plants that referenced the applicable PDA application at the construction permit stage of review. In the same manner described above for a PDA extension application, each FDA-1 application will need to address safety requirements established by the staff since the regulatory requirements cutoff date set for the PDA upon which the FDA-1 application is based. This application should be prepared in accordance with Regulatory Guide 1.70, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants, LWR Edition," and should identify all deviations from that revision of NUREG-75/087, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants" in effect 6 months prior to the date the FDA-1 application is tendered. The staff will permit referencing of the FDA-1 in applications for construction permits or combined construction permits and final design approvals for purposes of issuance of operating licenses for a period beginning with the docketing date of the FDA-1 application and terminating 3 years after the expiration date of the PDA on which the FDA-1 is based: *Provided*, That the staff is satisfied by information provided by the applicant that the applicant in developing the final design has properly considered antitrust matters, and after due consideration of any comments related to antitrust concerns that might be received from any individual or organization.

In a similar vein, the staff will accept FDA-2 applications from nuclear steam supply system vendors and other parties for designs based on compliance with all regulatory requirements in effect as of the date of docketing of the FDA-2 application. An FDA-2 will be treated in the same manner as an FDA-1 application with respect to antitrust considerations. The staff will permit referencing of the FDA-2 in applications for construction permits or combined construction permits and final design approvals for purposes of issuance of operating licenses from the application docketing date to a date 5 years from the date of the FDA-2 issuance.

DUPLICATE PLANT CONCEPT

The duplicate plant concept involves a number of applications for construction and operation of nuclear power plants of essentially the same design to be located at different sites by one or more utility-applicants. The duplicate plant concept has been demonstrated to be an effective means of reducing staff and applicant resources required for licensing reviews. The concept has been favorably commented upon by all involved parties. In order to enhance the usefulness of the concept, the staff procedures will henceforth permit future standard duplicate plant designs to be referenced in construction permit applications docketed between the docketing date of the initial application referencing the duplicate plant design and a date 5 years after initial staff approval of the duplicate plant design. The staff has concluded that this period of utilization is warranted because of the stability in licensing requirements obtained through use of the standard review plan and the control of changes in regulatory requirements achieved by the Regulatory Requirements Review Committee and the Director of Nuclear Reactor Regulation.

For preliminary duplicate plant designs approved in the future, a preliminary duplicate design approval (PDDA) will be prepared to summarize the staff's approval; this PDDA will be included in the safety evaluation report (SER), or supplement thereto, for each construction permit application referencing the duplicate plant design. The referencability period for the duplicate plant design will end 5 years from the date of the PDDA, unless an earlier termination date is required because the duplicate plant design utilizes a previously approved reference system design whose term of approval expires sooner than 5 years from the date of the PDDA. Staff approvals of such designs do not constitute Commission approval. Each utility application referencing a PDDA must be subjected to the public hearing process prior to the award of a construction permit.

The staff will determine the acceptability of the use of a duplicate plant preliminary design in the initial applications proposing to reference such a design during pretendering and predocketing discussions with the involved utilities. Subsequent to docketing of the initial applications, additional applications proposing to reference the duplicate plant preliminary design will be subjected to a qualification review to determine the acceptability of such referencing. The request for such review should be submitted to the staff at least 1 year prior to the date of tendering of the construction permit application, whenever possible. The request should include the following information:

(1) The arrangements made with the developers of the duplicate plant preliminary design for the use of the design.

(2) The compatibility of the design with site-related characteristics.

(3) A description of changes to the duplicate plant design, if any, and the basis for the changes.

(4) The status of matters identified for the duplicate plant design in the SER and supplements thereto, or subsequently identified by the Advisory Committee on Reactor Safeguards, or during public hearings on applications referencing the duplicate plant design, as requiring subsequent resolution.

(5) Identification of major contractors with justification for the acceptability of any that might be different from those used by earlier applicants using the duplicate plant design.

(6) A discussion of how the duplicate plant design will conform to any changes to the Commission's regulations which have become effective since issuance of the PDDA.

(7) The extent to which the design conforms to certain staff safety requirements that have been reviewed by appropriate NRR Division Directors and the Director, NRR, and approved for consideration in safety reviews pending review by the RRRC. The staff will, upon request, inform the applicant of any such requirements so that they can be properly addressed in the qualification review application.

The procedures for use of the duplicate plant concept at the operating license stage will generally parallel those used at the construction permit stage. Those licensees holding construction permits issued for plants incorporating a duplicate plant design may submit an application at the operating license stage that references a duplicate plant final design. The duplicate plant final design would be reviewed by the staff in the context of its review of the initially docketed operating license applications utilizing the duplicate plant final design. The staff expects to document the basis for its approval of such a duplicate plant final design in the SER, or supplement thereto, for the first application reviewed by the staff. A document termed the final duplicate design approval, or FDDA, will be included in the SER for each application referencing the duplicate plant final design. The FDDA will be applicable to any docketed operating license application referencing the duplicate plant final design, and for which the construction permit was based on referencing of the duplicate plant preliminary design, unless disqualified for good cause as a standard design application. An extensive delay in construction of the plant with an application for an operating license much later than normally expected could, for example, constitute one such good cause.

A duplicate plant design includes a balance of plant design. Therefore, the practicality of utilizing a duplicate plant final design in construction permits or combined construction permits and final duplicate design approvals for purposes of issuance of operating licenses is subject to the same antitrust considerations as previously discussed for reference system designs.

However, consistent with the policy established for the reference system concept, the staff will accept FDDA-1 and FDDA-2 applications for duplicate plant final design approvals under the same conditions described for FDA-1 and FDA-2 reference system final design approval applications, and with the same provisions for referencability in construction permits or combined construction permits and final duplicate design approvals for purposes of issuance of operating licenses. If the staff develops new procedures and practices permitting issuance of a standard design approval (SDA) for a reference system design, those procedures and practices would also be applicable to a duplicate plant design and permit issuance of a standard duplicate design approval (SDDA) for such a design.

MANUFACTURING LICENSE CONCEPT

The manufacturing license concept involves submittal of an application for a number of identical nuclear power plants which would be manufactured at one location and moved to a different location for operation. Appendix M to 10 CFR part 50 requires that a manufacturing license specify the number of units permitted to be manufactured. The number of units to be specified in a manufacturing license will be that number whose start of manufacture, as defined in the license application, can practically begin, considering the limitations inherent in the proposed manufacturing facility, within a 10 year period commencing on the date of issuance of the manufacturing license, but in no event will that number be in excess of ten. However, the staff has concluded that a plant design approved by the staff for a manufacturing license should be updated after a period consistent with the period of approval for a reference system design and a duplicate plant design. Accordingly, the manufacturing license will require the plant design to be updated no later than 5 years after its approval.

The number of units specified in the

license will be reduced if the plant design incorporates a reference system design whose term of approval ends sooner than the approval periods associated with the manufacturing license. The reduced number will be that number of units whose start of manufacture can begin during the period from the date of the manufacturing license to the expiration date of the reference system design.

Replicate Plant Concept

The replicate plant concept involves submittal of an application by a utility-applicant for a nuclear power plant of essentially the same design as one previously reviewed and accepted by the staff.

The staff believes that the replicate plant concept can continue to play a useful role in the standardization program. The use of the concept may diminish in the coming years because of the expected increase in the availability of approved standard reference system designs for nuclear steam supply systems and mating balance of plant systems, and the expected increase in the use of the duplicate plant concept as a result of the changes being provided for these alternative concepts.

When an applicant proposes to use the replicate plant concept and to replicate a previously approved plant (termed the base plant) a qualification review must be performed to determine the acceptability of the base plant for replication, and to define specific matters that must be addressed in the construction permit application for the replicate plant. A further requirement for qualification is that the construction permit application for a replicate plant must be submitted within 3 years of the date of issuance of the staff safety evaluation report (SER) for the base plant. The staff qualification procedures will henceforth be modified to provide an additional time limitation on the acceptability of the base plant for replication. If the base plant references an approved reference system design or duplicate plant design, the base plant will be acceptable for replication only if the approval term of the standard reference system or duplicate plant design expires after the docketing date of the replicate plant application. This requirement will prevent the extension of the period of use of an approved standard design, beyond that intended by the staff at the time of initial approval, by replication of the base plant incorporating the standard plant design.

The qualification review will be initiated upon request by the utility proposing to replicate a base plant design. The request at the construction permit stage should be submitted to the staff at least 1 year prior to the date of tendering of the application, and should include the following information:

(1) The arrangements made with the developers of the base plant design for its replication.

(2) The compatibility of the base plant design with the characteristics of the site proposed for the replicate plant.

(3) A description of changes to the basis plant design, and the bases for the changes.

(4) The status of matters identified for the base plant design in the SER and supplements thereto, or subsequently identified by the Advisory Committee on Reactor Safeguards, or during the public hearing on the base plant application, as requiring subsequent resolution.

(5) Identification of major contractors with justification for the acceptability of any that might be different from those used by the base plant applicant.

(6) A discussion of how the replicate plant design will conform to any changes to the Commission's regulations which have become effective since issuance of the SER for the base plant.

(7) A disucssion of how the design has been or will be modified to conform to certain new staff safety requirements that the Director of Nuclear Reactor Regulation (Director, NRR) on the basis of recommendations from the Regulatory Requirements Review Committee (RRRC), has directed be implemented for current and new applications and backfitted on all approved nuclear plants and plant designs.

(8) A discussion of the extent, if any, to which certain other new staff safety requirements should be or have been implemented into the previously approved design and justification for any limited implementation. The Director, NRR, on the basis of recommendations from the RRRC, has directed that these safety requirements be implemented for new applications as of specified dates, and that all nuclear plants and plant designs, either previously approved or currently under review for approval, be reviewed to determine if and to what extent, considering the status of operations, construction, or design, these requirements should be backfitted on the plant or design.

(9) A discussion of the extent to which the design conforms to certain other staff safety requirements that have been reviewed by appropriate NRR Division Directors and the Director, NRR, and approved for consideration in safety reviews pending review by the RRRC.

The matters referred to in items (7) and (8), above, are applicable to the base plant and it is preferred that, if practical, they be resolved on the base plant with required design changes replicated on the replicate plant. The matters referred to in item (9), above, may be applicable to the base plant upon completion of the RRRC and office director review, but unless they are resolved on the base plant so that required design changes can be replicated, they will need to be addressed and resolved in the replicate plant application.

The procedures for use of the replicate plant concept at the operating license stage will generally parallel those used at the construction permit stage. The qualification review at the operating license stage will be suitably adjusted for the state of the design.

We believe the actions being taken continue to be in the interest of public health and safety and will provide for a more practical standardization program of greater utility to both industry and the staff. The staff will continue its ongoing standardization study in order to define the new procedures and practices that would need to be developed for implementation of the SDA concept, to propose measures to more effectively limit changes to approved standard designs to those required for public health and safety, and to consider other changes that might be made in the future to further enhance the utility and effectiveness of the program. The staff will also revise the guidance it has published in the past in order to bring it into accord with the experience that has been gained, and with the approved changes to the program described herein.

Single copies of the report prepared by the staff may be obtained upon request to the Director, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C 20555.

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43 FR 49082
Published 10/20/78

RECOMMENDATIONS FOR IMPROVING NUCLEAR POWERPLANT LICENSING

Policy Statement

In its continuing efforts to improve the effectiveness and efficiency of Nuclear Regulatory Commission (NRC) licensing activities consistent with providing increased opportunity for the public to participate in the licensing process, the Commission requested a staff study of the lessons learned in nuclear power plant licensing since the NRC was created. The results of this study were published in June 1977 as NUREG-0292, "Nuclear Power Plant Licensing: Opportunities for Improvement." A press release was issued on July 27, 1977, which summarized these recommendations, noted public availability of the report, and indicated that the Commission had directed the staff to prepare a plan to implement these recommendations.

It is the intent of the Commission to implement the following recommendations of NUREG-0292 on an experimental basis whenever opportunities arise and it is practical to do so on both currently docketed and forthcoming applications. The recommendations will be implemented as a collective set if possible; however, implementation of any single recommendation will be undertaken if the staff believes a productive result will be achieved.

Recommendation No. 3

INCREASE PRETENDERING COORDINATION WITH APPLICANTS

The expanded pretendering coordination with applicants has as its objective the subsequent filing of an application that is of such quality as to minimize the need for extensive requests for additional information, clarification, or design or procedural commitment that often result in considerable delay in the review of an application after docketing. The expanded pretendering activities will be initiated about 9 months prior to the proposed tendering of an application and will be designed to provide additional guidance and direction to the applicant during the preparation of its application. The increased coordination activities during this period will include several working level meetings between the applicant and the staff to provide specific updated guidance to the applicant regarding the format and content of the application and to provide an opportunity to discuss key aspects of the design, relevant problems, and current staff positions.

Recommendation No. 4

EXPAND AND RESTRUCTURE THE ACCEPTANCE REVIEW

The present acceptance review program was initiated following publication of the Standard Format and Content document in 1972 and provided the staff with a standard by which to determine whether a tendered application was sufficiently complete to permit docketing and detailed review. The Acceptance Review will be expanded to emphasize the quality of the material presented as well as completeness.

The expanded and restructured Acceptance Review has as its objective the assurance that all significant information needed by the staff for the preparation of its Safety Evaluation Report will be in the docketed application. During the acceptance review, the staff will examine the information provided in the tendered application to determine that it includes most, if not all, of the information that is generally presently available in an application only after it has been amended to include the additional information developed in response to the staff's first round of questions after the application is docketed.

This expanded and restructured Acceptance Review in conjunction with the proposed increased pretendering coordination activities should result in a significant reduction, if not elimination, in the need for repetitive and time-consuming question and answer cycles subsequent to docketing.

Recommendation No. 5

MODIFY CURRENT REVIEW PROCESS BY DEVELOPING EARLY SAFETY EVALUATION REPORT

In order to achieve the full measure of the benefits envisioned in implementing Recommendations No. 3 and No. 4, the present safety review sequence will be altered somewhat in this experimental program. Because of the increased pretendering coordination with applicants and the expanded and restructured Acceptance Review, it is expected that the two rounds of questions which are a part of the present review sequence would be essentially eliminated, and the review would be performed on the basis of the contents and quality of the application as docketed and supplemented by the applicant's responses to the staff questions asked during the expanded and restructured Acceptance Review. The staff's positions would be reflected in a Safety Evaluation Report which would be issued within about 6 months of docketing.

After evaluating the results of this experimental program, appropriate changes will be made to pertinent staff documents concerning procedures and practices in licensing reviews. If required, changes to Commission rules and regulations will be initiated. Pending any changes in the regulations after this evaluation, it is the intent of the Commission to proceed with the Acceptance Reviews of any applications, involved in the experimental program and where Recommendation 4 is to be implemented, on a case-by-case basis notwithstanding the provisions of the current regulation in 10 CFR 2.101 concerning the time limit and content of Acceptance Reviews.

In addition, the Commission has directed the staff to implement Recommendation No. 6:

INCREASE PUBLIC PARTICIPATION DURING STAFF REVIEW

Although the hearing process provides an opportunity for public participation, there is very little practical opportunity for interested members of the public, particularly those in the vicinity of the proposed site, to become aware of the staff's role during review of construction permit applications. It is the intent of the Commission to provide increased opportunity for the public to observe and participate in the licensing process in a meaningful way without imposing an undue burden upon the resources of staff manpower.

While the most efficient way to handle interaction of the staff with the applicant on licensing matters is to hold meetings in Bethesda where it is possible to have access to various elements of the staff, the costs and distance make it almost impossible, except for certain well-established intervenor organizations, for members of the public living near the proposed site to participate in these meetings. On the other hand, to arrange all such meetings near the proposed plant site would impose significant burdens upon the staff without necessarily providing commensurate improvement in public understanding of the licensing process.

Past experience with staff interaction with the public has shown that:

(1) The public appears to be most interested in the licensing process in the pre-docketing and/or early stages of the review.

(2) The number of people who attend public meetings appears to be directly correlated with the time of day at which the meetings are held. Past experience has shown that many more people attend meetings held in the evening than during the working day.

Based on the above considerations, a number of working meetings between the staff and construction permit applicants, both prior to and after docketing of an application, normally held at Commission offices in Bethesda, Md., will be held in the vicinity of the proposed site. Whenever possible, these meetings will be held in the evenings or on weekends.

These meetings will provide an opportunity for interested members of the public to listen to the staff and applicant discussions and observe the staff's role in the review of applications. Appropriate provisions will be made for public comments and questions and responses by the applicant and the staff.

Recommendation No. 6 is to be implemented by the staff to the extent permitted by resource considerations on all ongoing and future license application reviews. In this respect, it differs from the implementation of Recommendations No. 3, 4, and 5, which are being conducted on an experimental basis for selected applications.

Finally, whatever improvements that accrue in efficiency as a result of these recommendations will not be permitted to reduce the quality of the licensing review.

Future statements concerning the other recommendations of NUREG-0292 will be issued as appropriate.

43 FR 58377
Published 12/14/78
Comment Period expires 2/12/79
(extended 3/14/79)

GENERIC RULEMAKING TO IMPROVE NUCLEAR POWER PLANT LICENSING

Interim Policy Statement

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Interim Policy Statement.

SUMMARY: An interim policy is presented to govern the consideration of preliminary proposals and plans by the Nuclear Regulatory Commission to pursue rulemaking on generic licensing issues as one of several initiatives to improve the effectiveness and efficiency of licensing of nuclear power plants. Although planning for expanded rulemaking of this nature was initiated with an NRC study group recommendation of June 1977, the present interim statement fully supports Executive Order 12044 of March 23, 1978, requesting improvement of existing and future government regulations so as to be as simple and clear as possible and avoid imposing unnecessary burdens on the economy, on individuals, on public and private organizations, or on State and local governments. Comments received by February 12, 1979, will be considered before adopting and implementing the final policy and plan for such expanded rulemaking.

DATE: Comments due on or before February 12, 1979.

ADDRESS: Written comments or suggestions for consideration in connection with the proposed Interim Statement on Rulemaking Policy should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC, 20555. Attention: Docketing and Service Branch.

FOR FURTHER INFORMATION CONTACT:

Miller B. Spangler, Office of Nuclear Reactor Regulation, Division of Site Safety and Environmental Analysis, U.S. Nuclear Regulatory Commission, Washington, DC, 20555, telephone 301-492-7305.

SUPPLEMENTARY INFORMATION: The Nuclear Regulatory Commission is proposing this interim policy statement as a means of receiving public and industry comment on the interim policy and plans for expanded rulemaking to improve and simplify the licensing process for nuclear power plants. Ten individual proposals for rulemaking are selected for presentation to illustrate the kinds of generic licensing issues the Commission feels might be treated more effectively by rulemaking. The purpose of announcing this interim policy is to obtain comments that will: Help the Commission decide which, if any, of these ten issues should be considered further for rulemaking; identify other issues suitable for rulemaking; develop a better perspective as to the likely scope or nature of any proposed rulemaking on any of the identified issues; and assist in the development of an overall plan for proceeding with generic rulemakings, especially public comment which would assist in determining relative priorities for each candidate issue for rulemaking.

The NRC recognizes that, in many instances, flexibility is required in the licensing process to accommodate changes in technology and analytical techniques as well as differences in specific design and site characteristics. However, the NRC also foresees a gain in licensing efficiency and simplification by placing, as appropriate, more of its analysis techniques and decision criteria into rules rather than Regulatory Guides and Standard Review Plans and relying on case-by-case analysis and litigation. By treating licensing issues generically, Federal, State, public, and applicant resources could be more effectively focused on site-specific and design-specific issues of importance and the NRC's licensing process would be more effective and better understood.

The brief description of the ten potential candidates for rulemaking appended to the following Interim Policy Statement provides only the general character of the intent of the proposed rule. Further information regarding these ten issues and procedures for their selection is presented in "Preliminary Statement on General Policy for Rulemaking to Improve Nuclear Power Plant Licensing," NUREG-0499. Single copies are available by writing to the Distribution Services Branch, Division of Technical Information and Document Control, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555.

The NRC has no prejudgment and precommitment to the exact nature of any subsequent proposed rule and invites creative contributive inputs by parties with a desire to aid in improving the licensing process through rulemaking. To aid its decisions on which issues to take to rulemaking and the establishment of schedule priorities, the NRC invites quantitative estimates on cost savings (manpower and financial resources) anticipated to result from generic rulemaking rather than individual case treatment of the issue using examples, as appropriate, from licensing experience to provide hard data on avoidable costs. These cost estimates should give consideration to the various types of proceedings which may be followed for individual rulemaking actions, namely: Adjudicatory hearings; opportunity for comment; or hybrid hearings (e.g., S-3 table, GESMO, ACCESS rulemaking).

INTERIM STATEMENT OF POLICY AND PLANS

A. STATEMENT OF PURPOSE

On April 20, 1977, the Commission directed that recently completed licensing actions be reviewed by the staff for the purpose of identifying ways to improve the effectiveness of NRC nuclear power plant licensing activities. The Study Group's report, *Nuclear Power Plant Licensing: Opportunities for Improvement* (NUREG-0292, June 1977) presented eleven recommended measures for improving licensing effectiveness. Recommendation No. 10 of this study (Increased Use of Rulemaking) provided the following statement suggesting certain basic purposes of rulemaking:

> The Study Group recommends that rulemaking should be considered to resolve, or to assist in the resolution of, major issues, which are routinely litigated in individual licensing proceedings. A system should be established for the continuing identification of major issues that are frequently raised in individual licensing cases, and for which, considering all relevant circumstances, the initiation of rulemaking would improve the overall licensing process.

The Commission, on October 28, 1977, requested the staff to prepare a paper defining the issues and the scope of the proposal to make increased use of rulemaking proceedings. Pursuant to this request, a Steering Committee on Reactor Licensing Rulemaking was established with the initial function of developing definitive criteria for identifying issues amenable to rulemaking and to recommend issues that should be considered further for rulemaking.

The Commission recognizes that there are potential advantages to the handling of certain safety and environmental issues by rulemaking, which depend on the specific issue being considered. These advantages are: (a) Enhance stability and predictability of the licensing process by providing regulatory criteria and requirements in discrete generic areas on matters which are significant in the review and approval of license applications; (b) enhance public understanding and confidence in the intergrity of the licensing process by bringing out for public participation important generic issues which are of concern to the agency and to the public; (c) enhance administrative efficiency in licensing by removing, in whole or in part, generic issues from staff review and adjudicatory resolution in individual licensing proceedings and/or by establishing the importance (or lack of importance) of various safety and environmental issues to the decision process; (d) assist the Commission in resolving complex methodology and policy issues involved in recurring issues in the review and approval of individual licensing applications; and (e) yield an overall savings in the utilization of resources in the licensing process by the utility industry, those of the public whose interest may be affected by the rulemaking, the NRC, and other Federal, State, and local governments with an expected improvement in the quality of the decision process.

Accordingly, rulemaking is perceived as an instrument for improving the effectiveness of the licensing process. Rulemaking would appear to serve the societal purposes reflected in the above advantages whenever this procedure would lead to a dispositive generic treatment of certain safety and environmental issues in a more cost-effective manner than the current approach which treats these issues repetitively for each individual licensing action.

B. CRITERIA FOR RULEMAKING ISSUES

Certain preliminary criteria were developed by the Steering Committee and utilized by the staff in identifying candidate environmental and safety issues and evaluating their suitability for rulemaking procedures. Each candidate issue will remain under consideration for rulemaking if it reasonably meets each of the following mandatory criteria:

1. *The issue must be generic.* This means that the topic must arise frequently in case review and/or at licensing hearings (not necessarily *all* hearings), with little added to the state-of-the-art and no significant differences in outcome in each instance. In other words, repetitive administrative litigation of the subject appears unproductive. Such issues might involve broad policy matters which are really not most efficiently addressed in specific plant licensing procedures, or might involve the establishment of criteria with which to measure the acceptability of an analytical or forecasting procedure or the importance of an issue in specific plant licensing procedures.

2. *There must be a likelihood of useful, definitive rule.* This means that the final rule should reasonably be expected to do one or more of the following:

a. Arrive at a dispositive finding regarding the generic issue so that the issue would not be addressed at all or in a simplified way in subsequent individual licensing cases where threshold or other generic criteria established by rulemaking are met.

b. Establish generic acceptance criteria which can then be applied to the issue in subsequent individual licensing cases.

c. Establish the relative importance of the generic issue to the decisional process for subsequent individual licensing cases; i.e., criteria to determine the relative significance of the issue.

d. Establish analytical criteria or methodology to be utilized in subsequent individual licensing cases. While many criteria and methodologies are already in Regulatory Guides and Standard Review Plans, in some instances it might be useful to incorporate these in NRC's rules in a more specific form.

If culmination of rulemaking would likely result in one or more of the above, then this would reduce subsequent controversy, strengthen the bases for NRC licensing decisions, and improve the quality and efficiency of staff review.

3. *There must be a likelihood of a stable rule.* This means that the information base and analytical or forecasting procedures should be sufficient to reach a reasonable generic conclusion and should be expected to remain relatively unchanged for some reasonable period of time after implementation of the rule.

Those candidates for rulemaking which meet the above criteria shall have the following value-impact criteria applied in their evaluation.[1]

Their beneficial values, on balance, should outweigh the additional impacts or costs of the licensing process in order to be considered further for rulemaking.

Near-term priorities for the scheduling of action for the accepted candidates for rulemaking will be made principally in accordance with the degree of favorability of benefits over costs and the level and availability of NRC resources including contractual services.

VALUE CRITERIA

a. Achievement of more effective public input and improved public understanding of NRC's analytical procedures and decision criteria in treating potential environmental and safety issues in the licensing process for nuclear power plants.

b. Improvement of the stability and predictability of the licensing process, including the provision of orderly and clear procedures for State-Federal cooperation in treating generic licensing issues.

c. Accomplishement of an overall savings of manpower and financial resources of the NRC, the public, the utility industry, and other local, State, and Federal agencies involved in the nuclear licensing process.

IMPACT CRITERIA

a. The short-term increase in dollar costs of the various participants in the rulemaking action, including contractual support.

b. The additional impacts (i.e., opportunity costs) of diverting manpower and other resources to the rulemaking process and away from other productive uses for a temporary period.

PLAN FOR THE DEVELOPMENT OF RULEMAKING ON SPECIFIC ISSUES

The plan for the development and implementation or rulemaking on specific generic issues involves the following steps:

1. Identification and description by the NRC staff of candidate issues for generic rulemaking. Brief descriptions of candidate issues for rulemaking as proposed by the staff are set forth in the Appendix.

2. Invitation and receipt of comments by the utility industry, the public, and other governmental agencies on staff-proposed rulemaking issues, including additional suggestions for rulemaking as well as information useful in assessing the scope, benefits, and costs of specific rulemaking issues.

3. Formalization of rulemaking plans upon receipt of comments and further development of implementation strategies and schedules.

4. Preparation of specific proposed rulemaking on the selected issues in accordance with the formalized plan.

PRELIMINARY APPROACHES FOR TREATING RULEMAKING DIFFICULTIES

There would appear to be three basic problems in achieving an effective implementation of rulemaking on generic issues: (i) Achieving effective input from public and industry sources; (ii) schedule conflicts with other NRC staff assignments; and (iii) developing rules for treating a number of the generic issues that will improve, rather than hinder, cooperative relations with those State agencies performing parallel functions.

In achieving effective input to rulemaking from public and industry sources, particularly on complex issues about which there are a diversity of views, the normal FEDERAL REGISTER Notice procedure of proposed rulemaking will be appropriately supplemented by the use of workshops or conferences. The preparation of staff papers before and after such workshops could serve as a useful basis for structuring the assimilation of comments and expertise in the development of generic methodological procedures and decision criteria.

In minimizing schedule conflicts with other staff assignments, it is contemplated that only a few of the more complex and difficult rulemaking actions would be scheduled in a given calendar year. The use of consultants to aid in the preparation of background studies for rulemaking would also be of assistance in easing schedule conflicts with staff efforts.

One of the greatest difficulties, however, is developing rules for treating a number of the generic issues that will improve, rather than hinder, cooperative relations with those State agencies performing parallel functions. Some States have been quite active in assessing the need for and siting of nuclear power plants, while other States are just beginning to get deeply involved. In addition to varying levels of experience among State agencies are problems arising from differences between States in the form of legal authorities, administrative structures, and policies and procedures affecting the treatment of licensing issues. These do not appear to be insurmountable difficulties, however, and the NRC has already begun to develop cooperative agreements in review and hearing efforts with several States in the areas of water-related impacts, and need-for-baseload facility methodology. Rules and guidelines can be de-

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[1] In NRC usage, the meaning of "values" and "impacts" includes external and intangible effects as well as internal and quantifiable ones.

veloped that provide an appropriate blend of flexibility and specific procedural requirements. State officials can be involved in workshops and conferences to aid in formulating the rules. Indeed, this rulemaking process conducted at an early date could have a substantial impact on those States which are just beginning to formulate licensing review programs, thus making State-Federal cooperation easier to accomplish and more effective.

APPENDIX

DESCRIPTION OF CANDIDATE ISSUES FOR GENERIC RULEMAKING

NRC staff efforts have produced the following preliminary identification of candidate issues for generic rulemaking upon which public comment is invited:[1]

- *Future availability and price of uranium*—Forecasting the availability and price of uranium is a complex, uncertain, and controversial issue that often arises in comparing the costs and benefits of proposed nuclear power plants with alternative energy sources. The subject is highly generic since the future outlook in the availability and price of uranium is both national and international in analytical content with insignificant variations for case-by-case treatment. The sources of information are outside the NRC. The principal output of rulemaking would be to accept the uncertainties as a given (i.e., not attempt to narrow them) and establish: (i) Criteria regarding availability and costs to be used in reactor facility licensing decisions, and (ii) thresholds for review of the rule at a later time to update the criteria for decision making, when warranted by substantial changes in the information base.

- *Alternative energy sources to the nuclear option*—Alternatives for central station electric power generation dealt with in hearings include coal, oil, geothermal, solar, wind, tidal, biomass, and municipal waste. Their administrative litigation in reactor licensing cases is largely generic with repetitive outcomes, making these suitable candidates for rulemaking. Many of these alternative energy sources have substantial uncertainty regarding their technology, future cost, and market acceptance. The DOE, NRC, EPRI and other institutions have prepared studies with additional research underway on alternative energy sources which collectively provide an adequate basis for NRC decisions. The rulemaking would seek to establish: (i) Criteria to determine when new energy sources should be considered as viable alternatives to a baseload nuclear power plant; (ii) criteria to judge when a viable alternative should be judged superior to the proposed nuclear power plant; and (iii) the criteria for any review of the rule at a later time.

- *Need for adding baseload generating capacity*—Power systems planning by utilities, including intra-pool sales, involves analysis of numerous factors to determine the optimal mix by fuel type and size as well as the timing of baseload generating additions to system capacity. A wide variety of demand forecasting methodologies are employed whose accuracy is impractical to demonstrate. A legion of conservation, cogeneration, and energy substitution options exist that are often highly speculative as to timing of implementation and their contributive importance. Experience has demonstrated that economic advantages and benefits of improved fuel mix, in some instances, can be even more persuasive criteria for justifying additional baseload capacity than need for power analysis which matches demand growth projections and planned unit additions and retirements against system reliability requirements. The possible asymmetry of cost penalties due to overforecasting or underforecasting demand appears a fruitful line of research being sponsored by the NRC that would aid in developing generic decision criteria and procedures for dealing with need for baseload facility analysis. Rulemaking would seek to establish: (i) Criteria by which the applicant's demonstration of need can be judged including criteria regarding demand forecasting methodologies, optimal fuel mix, and system economics; (ii) generic decision criteria regarding the extent to which the applicant's evaluation of need must agree with the NRC's evaluation of need, which inherently considers forecasting error and the asymmetry of cost penalties; (iii) the criteria, if any, which would determine the issues to be brought to NRC hearings relative to the adequacy of need for baseload addition analyses; and (iv) the degree to which the NRC could utilize previous reviews of State or Federal agencies.

- *Alternative siting methodology and information requirements*—Considerations important to the analysis of nuclear power plant siting alternatives vary between regions and even between certain site options within a region. Moreover, there are a variety of site screening and assessment methodologies in use among utilities which differ in their fundamental approach, the types of factors considered, and the level of information supplied to support the analyses. The cost of additional information for the siting analyses must be weighed against expected benefits. That is to say, a judgment needs to be made as to whether the cost of the extra information would likely be compensated for by its social value in significantly reducing the probability that a superior site will not have been identified in the screening process or ultimately rejected in the comparative analysis because of inadequate or inaccurate appraisal of adverse or beneficial impacts. The chief output of rulemaking would: (i) Clarify the rules regarding the concept of "obviously superior" as set forth by the Commission in the *Seabrook* case;[1] (ii) prescribe rules for establishing criteria regarding the implementation of the "obviously superior" concept and the kinds and extent of information required so as to achieve an appropriate blend of flexibility and specificity which would be cost-effective for different types of licensing/siting situations; and (iii) develop a record regarding variations and the relative merits of different site screening and evaluation methodologies and their associated costs, benefits, and uncertainties focusing on a spectrum of historical cases wherein controversial issues arose.

- *Criteria for assessment of nuclear plant impacts and mitigative measures*—Early Site Review (ESR) procedures have increased attention to site suitability concepts involving the acceptability of environmental and socioeconomic impacts of nuclear power plants. Regulatory Guides and Standard Review Plans developed by the NRC as they now exist are often too general in form to establish appropriate specific procedures and decision criteria to make a clear determination that a plant design/siting alternative is acceptable in regard to certain types of environmental and socio-economic impacts without additional mitigative measures, or that certain minor or major mitigative modifications are of reasonable cost when compared to the averted or reduced impacts. In the exploration of these concepts rulemaking would: (i) Provide a review of the types of issues encountered in the licensing process involving acceptability of impacts with and without mitigative measures in relation to their importance to the overall licensing decision process; (ii) develop acceptance criteria for various kinds of impacts in the construction and operation of nuclear power plants; and (iii) establish the acceptability of costs of mitigative measures to meet these or related criteria.

- *Generic procedural criteria to define more concretely NRC responsibility in assessments and decisions regarding certain water-related impacts in relation to the statutory authorities of EPA and permitting States*—NRC responsibility in assessments and decisions regarding water quality and resultant ecological impacts of nuclear power plant construction and operation derives principally from the NEPA of 1969 (Pub. L. 91-190) as modified by the Federal Water Pollution Control Act Amendments of 1972 (Pub. L. 92-500) and the Clean Water Act of 1977 (Pub. L. 95-217). The 1975 agreement between EPA and NRC entitled "Second Memorandum of Understanding Regarding Implementation of Certain Nuclear Regulatory Commission and Environmental Protection Agency Responsibilities under the Federal Water Pollution Control Act and the National Environmental Policy Act of 1969" serves to provide mechanisms for coordinating the respective responsbilities of the two agencies. Despite these efforts, substantial diversity in interpretation of these respective roles has been demonstrated among a number of EPA Regions and among NRC licensing boards in their initial decisions affecting certain water-related issues. While NRC has no authority to establish in specific terms the roles of the EPA or permitting States in these cooperative licensing review efforts on certain water-related impacts, a greater specificity of NRC's procedures could lead to a substantial improvement in the effectiveness of nuclear power plant licensing actions. The output of rulemaking would: (i) Develop dispositive rules on procedural criteria for the NRC role in assessments and decisionmaking involving certain water-related impacts of nuclear power plants; and (ii) provide a record through a review of licensing problems in multiagency coordination in dealing with water-related impact issues to establish clearer NRC responsbilities and insights useful to other cooperating agencies to improve the effectiveness of their own regulatory procedures. NRC would need to maintain close coordination with the EPA in the development of any proposed rule.

- *NEPA decision criteria for operating license (OL) reviews*—Current NRC regulations regarding OL licensing review procedures (10 CFR 51.23-e) declare that "a draft environmental impact statement prepared in connection with the issuance of an operating license will cover only matters which differ from or which reflect new information in addition to those matters discussed in the final environmental impact statement prepared in connection with the issuance of the construction permit." This instruction makes no differentiation in the relevance of individual cost-benefit considerations to licensing decisions at the OL versus the Construction Permit (CP) stage. For example, the staff believes the need for constructing new baseload generating capacity, a factor considered in a CP decision, normally is no longer a significant factor in the OL decision because the plant has already been constructed. The staff believes that in order to be forward-looking, the OL decision should ignore investment costs and the controlling cost-benefit criterion at this stage is whether the operation of a nuclear plant once constructed is a less expensive option for society in terms of incremental system and environmental costs than the use of any equivalent baseload capacity available within the system or the purchase of energy from other utilities in the power pool. Likewise, construction of new alternative energy sources and construction of the plant proposed in the application on an alternative site do not appear to be significant to an OL decision. Also, external and irretrievable impacts on the environment or community-level socioeconomic effects that have already occurred after having been found acceptable at the time of the CP decision do not appear to be relevant to an OL decision.

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[1] The Commission has not arrived at any final position as to the nature of any subsequent proposed rule(s) or even as to whether, after receipt of public comment and further staff development, any of the proposed candidates will be pursued further.

[1] *Memorandum and Order of the U.S. Nuclear Regulatory Commission in the Matter of Public Service Company of New Hampshire, et al. (Seabrook Station, Units 1 and 2)*, Docket Nos. 50-443 and 50-444, March 31, 1977.

Rulemaking would improve licensing effectiveness at the OL stage through: (i) Establishing for some cases a clear differentiation between impact issues admissible for review at the CP and OL stages of licensing decision; and (ii) developing for others acceptance criteria as to whether new information on impacts germane to an OL decision are sufficiently significant to societal interests to require re-review at the OL stage.

Currently, there is under review a petition for rulemaking in this area (PRM-51-4). While the staff believes that rulemaking in this general area would be productive, this Interim Policy Statement should not be considered as impacting the Commission's decision relative to the legal and technical merits of the petition.

- *Occupational radiation exposure control*—Analysis of occupational radiation exposure data has identified activated corrosion products (crud) as the principal source of worker exposures at nuclear power plants. Man-rem exposure, plant down-time, and operating and maintenance costs may be substantially increased without appropriate exposure control of these depositional processes. The industry has been exploring methods of reducing occupational radiation exposures due to these sources. At such time in the future as information becomes sufficient to justify specific regulatory requirements in this area, rulemaking could achieve a specific annual radiation exposure design objective for control of occupational radiation exposures from crud buildup, analogous to 50.34a for effluent control. More immediately, it would appear desirable to conduct rulemaking surrounding the development of additional design criteria in Appendix A of Part 5 involving two separate considerations: (i) Crud formation, solution, and deposition, including design criteria for the primary coolant system for decontamination of crud; and (ii) aspects of plant layout and design to reduce occupational radiation exposure from this source in keeping with ALARA criteria in Regulatory Guide 8.8.
- *Generic radiological impact for normal LWR radionuclide releases*—Radiological impact estimates are currently prepared through an engineering evaluation of the radioactive waste treatment system that produces an inventory of radionuclides released to the environment, a calculation of the available atmospheric and hydrologic dilution, and a calculation of the dose to individual receptors in the immediate site environs and to the population within 50 miles of the site and the total United States. A generic treatment of these radiological impacts would be appropriate because: (1) There is a regulatory requirement that radioactive effluents result in calculated doses within 10 CFR Part 50, Appendix I, design objective values, and (2) technical specifications are imposed on nuclear plants which hold them to or below these values. This results in operating criteria that always limit the impact to a value below a specified value. The proposed rulemaking would be based, in part, on a survey of the calculated impacts in environmental statements to determine appropriate ranges of doses for categorizing radiological impacts from radionuclide releases. The upper end of this range of doses would be the Appendix I design objective values. An empirical study of the relation between observed and calculated impacts would establish a more reliable lower bound for radiological impacts than that presently calculated and would obviate the need for calculating radiological impacts of normal radionuclide releases for each individual licensing case.
- *Threshold limits for generic disposition of cooling tower effects*—The potential environmental and socioeconomic effects of cooling tower operation have raised contentions at a substantial number of case hearings. These issues include weather modification (increased rain, snow, fog, tornadoes and floods), deposition, interactions of cooling tower operation with other plant effluents (radiological and chemical), noise, and aesthetics. In a sizeable fraction of these cases a detailed examination of these issues in supplemental testimonies supports the conclusion that the impacts are of negligible societal importance. Accordingly, a useful objective of rulemaking would be to seek to establish threshold limits for each potential effect of cooling tower operation for a wide variety of designs and site-specific conditions which, if not exceeded, would be deemed to be inconsequential to societal interests. If these threshold limits were exceeded, then more detailed assessment would be required for the individual licensing action in lieu of generic disposition.

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44 FR 8242
Published 2/9/79
Effective 2/9/79

Regulation of the Medical Uses of Radioisotopes; Statement of General Policy

AGENCY: Nuclear Regulatory Commission.

ACTION: Final Policy Statement.

SUMMARY: The Nuclear Regulatory Commission (NRC) has the following policy statement regarding NRC's future role in regulating the medical uses of radioisotopes. This NRC policy statement is intended to inform NRC licensees, other Federal and State agencies and the public of the Commission's general intention regarding the regulation of the medical uses of radioisotopes. It is expected that future NRC activities in the medical area, such as promulgation of new regulations and development of cooperative relationships with other Federal agencies, will follow this statement of NRC policy.

EFFECTIVE DATE: February 9, 1979.

FOR FURTHER INFORMATION CONTACT

Mr. Edward Podolak, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Phone: 301-443-5860).

SUPPLEMENTAL INFORMATION: The NRC has developed the following three part policy statement regarding NRC's future role in regulating the medical uses of radioisotopes. On March 17, 1978, the three part policy statement was published in the FEDERAL REGISTER (43 FR 11208) for public comment. Copies of the policy statement were sent to all NRC medical licensees, the States and 25 professional societies, Federal agencies, and individuals. The comment period expired May 16, 1978. Twenty-two comments were received. Nine commenters favored all three parts of the policy statement, four commenters opposed one part of the policy statement and nine commenters addressed specific issues discussed in the March 17, 1978 FEDERAL REGISTER notice. The comments are discussed in Section II. Copies of the comments may be examined in the NRC Public Document Room at 1717 H Street, N.W., Washington, D.C.

I. STATEMENT OF GENERAL POLICY

This NRC policy statement is intended to inform NRC licensees, other Federal and State agencies and the public of the Commission's general intention regarding the regulation of the medical uses of radioisotopes.

It is expected that future NRC activities in the medical area, such as promulgation of new regulations and development of cooperative relationships with other Federal agencies, will follow this statement of NRC policy.

Based on past experience and the comments and advice of the public, other Federal agencies, the States, and NRC's Advisory Committee on the Medical Uses of Isotopes, the Commission has developed the following statement of general policy to guide its regulation of the medical uses of radioisotopes:[1]

1. The NRC will continue to regulate the medical uses of radioisotopes as necessary to provide for the radiation safety of workers and the general public.

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[1] NRC licenses radioisotopes in three categories: byproduct, source and special nuclear material. The NRC does not regulate naturally occurring or accelerator produced radioisotopes. The term *byproduct material* means any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material. The term *source material* means (1) uranium, thorium or any combination thereof, in any physical or chemical form or (2) ores which contain by weight one-twentieth of one percent (0.05%) or more of (i) uranium, (ii) thorium or (iii) any combination thereof. Source material does not include special nuclear material. *Special nuclear material* means (1) plutonium, uranium 233, uranium enriched in the isotope 233 or in the isotope 235 or (2) any material artificially enriched by any of the foregoing, but does not include source material.

2. The NRC will regulate the radiation safety of patients where justified by the risk to patients and where voluntary standards, or compliance with these standards, are inadequate.

3. The NRC will minimize intrusion into medical judgments affecting patients and into other areas traditionally considered to be a part of the practice of medicine.

II. RATIONALE

The NRC and its predecessor the Atomic Energy Commission have regulated the medical uses of radioisotopes since 1946. AEC recognized that physicians have the primary responsibility for the protection of their patients and designed its regulations accordingly. The physicians were required to be licensed by the State, and their applicable training and experience were evaluated in consultation with the Advisory Committee on the Medical Uses of Isotopes. This regulation has been generally oriented toward assisting qualified physicians in discharging their responsibilities to patients. However, regulation by AEC/NRC has at one time or another encompassed nearly every aspect of the delivery of radioisotope medical services to patients. The broadest regulation occurred between 1962 and 1975, when the Food and Drug Administration (FDA) exempted from its requirements for new drugs all radiopharmaceuticals regulated by AEC. During this period AEC regulated the radiation safety of workers and the general public *and* the safety and efficacy of radioactive drugs and devices with respect to patients. AEC regulation included production of the radioisotope, manufacture of the final radioactive drug product or device, distribution, use and disposal of the products. In 1975, the FDA terminated the exemption for radiopharmaceuticals, stating that it would now regulate the safety and efficacy of radioactive drugs with respect to patients. (As noted later in this statement, FDA does not regulate the physician's routine use of radiopharmaceuticals.) At the same time, NRC withdrew from regulating radioactive drug safety and efficacy, stating that it would regulate the radiation safety of the workers and the public. The 1976 Medical Device Amendments to the Food, Drug and Cosmetic Act extended FDA's authority over medical devices (including devices containing radioactive materials) in a way similar to its authority over drugs.

NRC's authority to regulate domestically the medical uses of byproduct material is found in the Atomic Energy Act of 1954, as amended. For example, section 81 of that Act authorizes NRC "to issue general or specific licenses to applicants seeking to use byproduct material for * * * medical therapy * * *." Section 81 directs NRC to regulate the manufacture, production, transfer, receipt in interstate commerce, acquisition, ownership, possession, import and export of byproduct material. Finally, Section 81 also directs that:

> The Commission shall not permit the distribution of any byproduct material to any licensee, and shall recall or order the recall of any distributed material from any licensee, who is not equipped to observe or fails to observe such safety standards to protect health as may be established by the Commission or who uses such material in violation of law or regulation of the Commission or in a manner other than as disclosed in the application therefor or approved by the Commission.

Commission regulations, for the most part set forth in 10 CFR Parts 30 through 35, were promulgated to carry out the broad regulatory scheme envisaged by section 81. For example, Part 35 establishes regulations specific to human uses of byproduct material. FDA's statutory authority (Federal Food, Drug and Cosmetic Act, as amended, 21 U.S.C. 301 *et seq.*) does not diminish NRC's authority. Where NRC's and FDA's authorities overlap, the respective authorities can be harmonized by interagency agreement.

The central question is a question of *policy* not *authority*, namely:

To what extent should the protection of the patient be considered in NRC's regulation of the medical use of byproduct material?

From the standpoint of *authority*, it is clear that NRC can regulate the medical uses of byproduct material to protect the health and safety of users of this material, for instance, patients. In licensing the possession and use of byproduct material, NRC establishes limits within which physicians exercise professional discretion. From the standpoint of *policy*, these limits depend upon how NRC views the potential hazard to the patient's health and safety in the uses of the byproduct material. The greater the potential hazard to a patient from the byproduct material or its use by a physician, the more NRC may elect to circumscribe areas that might otherwise be regarded as within the discretion of the physician.

The first part of NRC's policy statement indicates that NRC will continue to regulate the medical uses of radioisotopes as necessary to provide for the radiation safety of workers and the general public.[1] This is the traditional regulatory function of NRC for all uses of byproduct, source and special nuclear material. It is a regulatory role that was not questioned by any of the commenters but, rather, it was consistently recognized as a necessary role in the medical uses of radioisotopes.

NRC's regulation of the radiation safety of workers and the general public in the medical uses of radioisotopes is relinquished by NRC to Agreement States; does not overlap with FDA's activities; is in harmony with regulation by the Department of Transportation, Social Security Administration and the Joint Commission on Accreditation of Hospitals; and dovetails with Occupational Safety and Health Administration regulation of the work-place for the use of naturally-occurring and accelerator-produced radioactive materials.

The second part of NRC's policy statement indicates that NRC will regulate the radiation safety of patients where justified by the risk to patients and where voluntary standards, or compliance with these standards, are inadequate. As noted before, NRC has the authority to regulate the radiation safety of patients.

The NAS-BEIR [2] report discusses limiting the exposure of the population to medical applications of ionizing radiation. That report, which includes all medical uses of ionizing radiation, shows an average dose rate from radiopharmaceuticals of 1 mrem/year and an average dose rate from diagnostic radiology of 72 mrem/year in 1970.

The following quotation is from the NAS-BEIR report:

> In the foreseeable future, the major contributors to radiation exposure of the population will continue to be natural background with an average whole body dose of about 100 mrem/year, and medical applications which now contribute comparable exposures to various tissues of the body. Medical exposures are not under control or guidance by regulation or law at present. The use of ionizing radiation in medicine is of tremendous value but it is essential to reduce exposures since this can be accomplished without loss of benefit and at relatively low cost. The aim is not only to reduce the radiation exposure to the individual but also to have procedures carried out with maximum efficiency so that there can be a continuing increase in medical benefits accompanied by a minimum radiation exposure.

NRC will act to help ensure that radiation exposure to patients is as low as is reasonably achievable, consistent with competent medical care and with minimal intrusion into medical judgments. NRC will not exercise regulatory control in those areas where, upon careful examination, it determines that there are adequate regulations by other Federal or State agencies or well administered professional standards. Wherever possible, NRC will work closely with Federal and State agencies and professional groups in designing new voluntary guidance for practitioners to limit unnecessary patient radiation exposure.

The third part of NRC's policy statement indicates that NRC will minimize its intrusion into medical judgments affecting the patient and into other areas traditionally considered to be a part of the practice of medicine. The Commission recognizes that physicians have the primary responsibility for the protection of their patients. The Commission believes that basic decisions concerning the diagnosis and treatment of disease are a part of the physician-patient relationship and are traditionally considered to be a part of the practice of medicine. NRC regulations are predicated on the assumption that properly trained and adequately informed physicians will make decisions in the best interest of their patients.

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[1] The term general public in this statement specifically excludes patients.

[2] National Academy of Sciences Advisory Committee on the Biological Effects of Ionizing Radiations (NAS-BEIR) report. *The Effects on Populations of Exposure to Low Levels of Ionizing Radiation. National Academy of Sciences—National Research Council*, Washington, D.C. (1972).

The regulations try to find a balance between adequate controls and avoidance of undue interference in medical judgments. A consequence of too much regulation could be poorer health care delivery to patients. A consequence of leaving to physicians the majority of the decisions concerning their patients is that the physicians will make mistakes. The tightest regulation of physicians' decisions by Federal, State and professional groups will not be able to prevent future incidents in the medical uses of radioisotopes.

The Commission recognizes that FDA regulates the manufacture and interstate distribution of drugs, including those that are radioactive. FDA also regulates the investigational and research uses of drugs as well as the specific guidance on doses and procedures found in the product labeling. However, FDA does not have the authority to restrict the routine use of drugs to procedures (described in the product labeling) FDA has approved as safe and effective. Indeed, NRC is the only Federal Agency that is currently authorized to regulate the routine use of radioactive drugs from the standpoint of reducing unnecessary radiation exposure to patients.

The Commission believes that the diagnostic use of radioactive drugs is, in most cases, clearly an area of low radiation risk to patients. Therefore, NRC will not control physician's prerogatives on patient selection, instrument selection, procedure selection, drug selection and dose level for most diagnostic uses of radioisotopes. For all therapeutic uses of radioactive drugs, and in certain diagnostic uses—for example, the use of phosphorus-32 for localization of eye tumors—the risk to patients is not low. The risk of tissue or organ damage (or even death) is inherent in the use of therapeutic levels of radioactive drugs. NRC will continue to restrict the uses of therapeutic and certain diagnostic radioactive drugs to the indicated procedures that have been approved by FDA. The NRC will not control the physicians' prerogatives on patient selection and instrument selection for therapy procedures, because these procedures are so specialized and patient specific.

Congress recently gave FDA authority to regulate medical devices, similar to FDA's authority to regulate drugs, but with additional authority to restrict the routine use of medical devices as may be necessary to provide reasonable assurance of their safety and effectiveness. FDA has not yet had sufficient time to implement its full authority to regulate medical devices containing byproduct, source or special nuclear material. Therefore, NRC will continue to restrict physician's uses of these medical devices, both for diagnosis and therapy, to those procedures that NRC has determined (in consultation with its Advisory Committee on the Medical Uses of Isotopes) to be safe and effective.

The Commission does not consider equipment calibration, qualifications of paramedical personnel or reporting to NRC misadministrations of radioactive material to be exclusively the practice of medicine or a part of physician-patient relationships. The Commission intends to regulate these areas of patient radiation safety where justified by the risk to patients and where voluntary standards, or compliance with these standards, are inadequate.

III. DISCUSSION OF PUBLIC COMMENTS

A. COMMENTS ON THE POLICY STATEMENT

One commenter opposed the use of the general term "radioisotopes" in the first part of the policy statement. This commenter was concerned that, if taken out of the context of the footnote, it could be interpreted to include naturally occurring and accelerator produced radioisotopes.

The Commission believes that the general term "radioisotopes" is plain English and easily recognized by the public. It was properly footnoted in the policy statement to include the more cumbersome but specific terms: byproduct, source and special nuclear material and to exclude naturally occurring and accelerator produced radioactive material.

One commenter, in opposition to NRC's regulation of patient radiation safety, suggested that NRC limit its role to the radiation safety of the hospital staff and the general patient population. He believes that patient dosimetry is a responsibility of the individual institution and not NRC. This commenter feels that NRC should first require adequate staffing, including a board certified physician or radiopharmacist and a radiation safety officer, and then essentially leave the institution alone regarding dosimetry, instrumentation, calibration, drug procurement or any other function considered to be the practice of medicine.

NRC does require the licensee to staff its operation with a radiation safety officer and a physician (not necessarily board certified) trained to administer radioactive material or radiation to patients. However, the Commission cannot limit its regulatory role to protecting the hospital staff and the general patient population and at the same time fulfill its congressional mandate to protect the health and safety of the public as regards source, byproduct and special nuclear material. The patient being treated or diagnosed with radioactive material, as well as the general public who may be exposed to radiation as a result of that treatment, are all members of the public to be protected by NRC.

Two commenters objected to NRC's regulation of patient radiation safety because they believe that NRC does not have the authority to regulate patient safety. They note that NRC's enabling legislation does not specifically mention the radiation safety of patients. They believe that patient safety is the responsibility of the physician, a responsibility that cannot be shared. They believe that the Commission is in error to equate patients with the public and to consider patients as users rather than recipients of radioactive material.

As noted in the analysis of the similar comment above, the NRC's overriding congressional mandate is to protect the health and safety of the public. The patient is a member of the public, notwithstanding the Commission's recognition of physicians' primary responsibility for protection of their patients. The policy statement and, indeed, all of the Commission's actions in regulating the medical uses of radioisotopes, acknowledge the secondary but necessary role of NRC in regulating the radiation safety of patients. The Commission also considers patients to be both users and recipients of radioactive material. However, the distinction between receipt and use of radioactive materials is not meaningful in this case because NRC regulates, among other things, receipt, possession, use and transfer of byproduct, source and special nuclear material in protecting the health and safety of the public.

B. COMMENTS ON SPECIFIC ISSUES

There were six comments on the question of reporting misadministrations of radioactive material. Three commenters opposed any misadministration reporting and three commenters offered suggestions on how they should be reported. All of the comments will be considered in dealing with NRC's newly proposed misadministration reporting requirement that was published in the FEDERAL REGISTER for public comment on July 7, 1978 (43 FR 29297).

There were six comments on the specific issue of paramedical training. Three commenters believe that it is unnecessary for NRC to become involved in paramedical training because several organizations are already providing or developing minimum standards, guidelines or certification. One commenter believed that NRC should be involved in this area because the technologist, not the physician, does most of the work with radioisotopes. Two commenters believe that radiological physicists should be separated out from other paramedical personnel and one of these commenters offered a definition of radiological physicist.

As noted in the proposed policy statement, NRC is studying the various allied health certification programs currently in effect or being drafted by other Federal, State and professional groups. If the coverage provided by these programs is not adequate to protect the patient from unnecessary radiation exposure, NRC will work with these groups to develop a new NRC proposed rule for the training of allied health personnel.

There were five comments on the specific subject of nuclear pharmacies (radiopharmacies).

One commenter urged NRC to distinguish between radiopharmacists working in a hospital setting and those working in a retail environment (commercial nuclear pharmacy). This commenter also noted the complexity of the problem of definition when the hospital based radiopharmacy provides radiopharmaceuticals to other hospitals and practitioners in its area.

As noted in the proposed policy statement, the NRC will defer to the Food and Drug Administration (FDA) regarding a determination of those activities of nuclear pharmacies that will be considered manufacture and those activities that will be considered the ordinary practice of pharmacy (compounding and dispensing).

Four commenters objected to NRC's licensing nuclear pharmacies to distribute only those products that they have prepared from FDA-approved radiopharmaceuticals or reagent kits. One commenter cited the practice of nuclear pharmacies supplying radiochemicals to researchers who use them on humans under their own FDA "Notice of Claimed Investigational Exemption for a New Drug" (IND). One commenter noted that FDA permits nuclear pharmacies to operate in the absence of a final determination of their status, providing they meet all State and local pharmaceutical regulations. The two other commenters characterized the NRC's restrictions on the distribution of radiopharmaceuticals by nuclear pharmacies as an unwarranted intrusion into the practice of pharmacy which is regulated by the States.

NRC licenses nuclear pharmacies to distribute radioactive drugs that have been approved by FDA. This includes radioactive drugs subject to an FDA-approved "New Drug Application" (NDA), or "Notice of Claimed Investigational Exemption for a New Drug" (IND). NRC relies on FDA approval of radioactive drugs because NRC has not regulated the safety and effectiveness of radioactive drugs since 1975. Also, there are not many States that are equipped to regulate radioactive drug safety and effectiveness.

Dated at Washington, D.C. this 1st day of February 1979.

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44 FR 8276
Published 2/9/79
Comment period extended to 3/14/79

GENERIC RULEMAKING TO IMPROVE NUCLEAR POWER PLANT LICENSING

Interim Policy Statement; Extension of Comment Period

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Extension of comment period.

SUMMARY: The Nuclear Regulatory Commission is extending the public comment period on its Interim Policy Statement regarding Generic Rulemaking to Improve Nuclear Power Plant Licensing for an additional 30 days. The Interim Policy Statement was published on December 14, 1978 (43 FR 58377). The original comment period would have expired February 12, 1979. Further information regarding generic rulemaking issues and staff deliberations is found in NUREG-0499, "Preliminary Statement on General Policy for Rulemaking to Improve Nuclear Power Plant Licensing". Supplement No. 1 to NUREG-0499 contains information on "General Considerations and Issues of Significance on the Evaluation of Alternative Sites for Nuclear Generating Stations Under NEPA". Copies of these documents are available by writing to the Distribution Services Branch, Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

DATE: New comment period expires: March 14, 1979.

ADDRESSES: Written comments or suggestions for consideration in connection with the proposed Interim Statement on Rulemaking Policy should be submitted to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch.

FOR FURTHER INFORMATION CONTACT:

Dr. Miller B. Spangler, Office of Nuclear Reactor Regulation, Division of Site Safety and Environmental Analysis, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone 301/492-7305.

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44 FR 59686
Published 10/16/79
Comment period expires 10/16/79

Proposed Agency Policy and Procedures for Differing Professional Opinions; Request for Comments

The Nuclear Regulatory Commission (NRC) has developed a statement of policy on differing professional opinions and the general procedures for implementing this policy within the agency. The NRC requests comments upon the proposed policy and the procedures, and also any additional recommendations or experiences regarding policy objectives, procedures, or other provisions that the Commission should consider before proceeding to adopt the proposed policy and procedures.

The proposed statement of policy clarifies the responsibilities of both NRC employees and NRC management regarding the expression and resolution of differing professional opinions. Moreover, the policy assures all employes the opportunity to have differing professional opinions heard and considered by NRC management free from retaliation in any form.

The proposed system for implementing this policy on differing professional opinions within the agency is described in a set of thirteen detailed procedures. These procedures provide, for example, alternate channels for the submission of differing professional opinions, accountability for all actions taken on a differing professional opinion, resolution of all differing professional opinions submitted in accordance with these procedures, and assurance against retaliation for the submission of a differing professional opinion. Also included are provisions for follow-up and evaluation of these procedures to ensure that implementation accomplishes the stated objectives and to recommend changes, as appropriate.

Single copies of the proposed policy and procedures can be obtained by writing to the U.S. Nuclear Regulatory Commission, Office of Management and Program Analysis, Washington, D.C. 20555. In addition, a single copy of the proposed policy and procedures is available, and may be inspected and copied, in the Commission's Public Document Room at 1717 H Street, N.W., Washington, D.C. Copies of comments received are also available for inspection at the Washington, D.C.

Public Document Room.

Persons with questions may call Dr. Harry J. Watters in the Office of Management and Program Analysis, telephone 301-492-7721.

Written comments or questions should be addressed to the Director, Office of Management and Program Analysis, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Comments must be received by December 10, 1979.

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44 FR 61123
Published 10/23/79

Planning Basis for Emergency Responses to Nuclear Power Reactor Accidents

AGENCY: Nuclear Regulatory Commission.

ACTION: NRC Policy Statement.

Purpose

This is a statement of policy with regard to an Environmental Protection Agency (EPA) and Nuclear Regulatory Commission (NRC) task force report on guidance for use in state and local radiological emergency response plans at nuclear power plants.

Background

The NRC received a request from the Conference of Radiation Control Program Directors, an organization of State officials, to "make a determination of the most servere accident basis for which radiological emergency response plans should be developed by offsite agencies." In response, an EPA and NRC task force was established which prepared a report entitled "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," NUREG-0396, EPA 520/1-78-016, dated December 1978. Single copies of the report can be obtained by writing to the Director, Division of Technical Information and Document Control, Nuclear Regulatory Commission, Washington, D.C. 20555. The task force report was published for public comment in the Federal Register on December 15, 1978 and the comment period was extended to May 15, 1979 to allow additional comments resulting from the accident at Three Mile Island. A synopsis of the comments received and the task force consideration of these comments is available from the Assistant Director for Emergency Preparedness, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Planning Basis

The major recommendation of the report is that two Emergency Planning Zones (EPZs) should be established around light water nuclear power plants. The EPZ for airborne exposure has a radius of about 10 miles; the EPZ for contaminated food has a radius of about 50 miles. Predetermined protective action plans are needed for the EPZs. The exact size and shape of each EPZ will be decided by emergency planning officials after they consider the specific conditions at each site. These distances are considered large enough to provide a response base which would support activity outside the planning zone should this ever be needed.

The report also provides planning basis guidance in the form of a range of time values in which emergency response officials should be prepared to implement protective action. The report indicates that, depending on such factors as the specific sequence of events during an accident which results in the release of radioactivity to the atmoshpere and the prevailing meteorological conditions, protective action may be required from perhaps one-half hour to one day after the intiation of the accident. Development and periodic testing of procedures for rapid notification of emergency response officials is encouraged, since the time available for action is strongly affected by the time consumed in notification.

The chemical and physical characteristics of those radionuclides which contribute most significantly to human exposure are presented.

NRC Policy

NRC concurs in and endorses for use the guidance contained in the task force report. In endorsing this guidance, the Commission recognizes that it is appropriate and prudent for emergency planning guidance to take into consideration the principal characteristics (such as nuclides released and distances likely to be involved) of a spectrum of design basis and core melt accidents. While the Commission recognizes that the guidance may have significant response impacts for many local jurisdictions, it believes that implementation of the guidance is nevetheless needed to improve emergency response planning and preparedness around nuclear power reactors.

The Commission is direction its staff to incorporate the planning basis guidance into existing documents used in the evaluation of state an local emergency response plans to the extent practicable. The NRC has recently published and Advance Notice of Proposed Rulemaking concerning additional regulations on emergency plans, 44 FR 41484, Tuesday, July 17, 1979. Additional guidance will be provided following this rulemaking. This additional guidance can be expected to consider how local conditions such as demography, land use, and meteorology can influence the size an shape of the EPZs and to address other issues, such as evacuation planning.

Specific implementation dates for full implementation of the task force recommendations and any others that are developed will be established as part of the ongoing rulemaking effort. The Commission also expects the staff to assist state and local governments in improving their emergency response capabilities at existing sites in the immediate future.

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45 FR 2893
Published 1/15/80

EPA Policy Statement; Planning Basis for Emergency Responses to Nuclear Power Reactor Accidents

Purpose

This is a statement of policy with regard to an Environmental Protection Agency (EPA) and Nuclear Regulatory Commission (NRC) task force report on guidance for use in State and local radiological emergency response plans at nuclear power plants.

Background

The NRC received a request from the Conference of Radiation Control Program Directors, an organization of State officials, to "make a determination of the most severe accident basis for which radiological emergency response plans should be developed by offsite agencies." In response, an EPA and NRC task force was established which prepared a report entitled "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," NUREG-0396, EPA 520/1-78-016, dated December 1978. Single copies of the report can be obtained by writing to the Director, Division of Technical Information and Document Control, Nuclear Regulatory Commission, Washington, D.C. 20555.

Planning Basis

The major recommendation of the report is that Emergency Planning Zones (EPZ's) should be established around light water nuclear power plants. The EPZ for airborne exposure has a radius of about 10 miles; the EPZ for contaminated food has a radius of about 50 miles. Predetermined protective action plans are needed for the EPZ's. The exact size and shape of each EPZ will be decided by emergency planning officials after they consider the specific conditions at each site.

The report indicates that officials may have from one-half hour to several hours

warning in which to implement protective actions before a release of radioactivity to the atmosphere.

The chemical and physical characteristics of those radionuclides which contribute most significantly to human exposure are presented.

EPA Policy

EPA concurs in and endorses for use the guidance contained in the task force report. It will be EPA's policy to incorporate its recommendations into all EPA emergency response guidance to State and local officials.

45 FR 40101
Published 6/13/80
Comment period expires 9/11/80

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10 CFR Parts 50 and 51

Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969

AGENCY: U.S Nuclear Regulatory Commission

ACTION: Statement of Interim Policy.

SUMMARY: The Nuclear Regulatory Commission (NRC) is revising its policy for considering the more severe kinds of very low probability accidents that are physically possible in environmental impact assessments required by the National Environmental Policy Act (NEPA). Such accidents are commonly referred to as Class 9 accidents, following an accident classification scheme proposed by the Atomic Energy Commission (predecessor to NRC) in 1971 for purposes of implementing NEPA.[1] The March 28, 1979 accident at Unit 2 of the Three Mile Island nuclear plant has emphasized the need for changes in NRC policies regarding the considerations to be given to serious accidents from an environmental as well as a safety point of view.

This statement of interim policy announces the withdrawal of the proposed Annex to Appendix D of 10 CFR Part 50 and the suspension of the rulemaking proceeding that began with the publication of that proposed Annex on December 1, 1971. It is the Commission's position that its Environmental Impact Statements shall include considerations of the site-specific environmental impacts attributable to accident sequences that lead to releases of radiation and/or radioactive materials, including sequences that can result in inadequate cooling of reactor fuel and to melting of the reactor core. In this regard, attention shall be given both to the probability of occurrence of such releases and to the environmental consequences of such releases. This statement of interim policy is taken in coordination with other ongoing safety-related activities that are directly related to accident considerations in the areas of plant design, operational safety, siting policy, and emergency planning. The Commission intends to continue the rulemaking on this matter when new siting requirements and other safety related requirements incorporating accident considerations are in place.

DATES: This statement of interim policy is effective June 13, 1980 Comment period expires September 11, 1980.

ADDRESSES: The Commission intends the interim policy guidance contained herein to be immediately effective. However, all interested persons who desire to submit written comments or suggestions for consideration in connection with this statement should send them to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch.

FOR FURTHER INFORMATION CONTACT: R. Wayne Houston, Chief, Accident Evaluation Branch Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone: (301) 492–7323.

SUPPLEMENTARY INFORMATION:

Accident Considerations in Past NEPA Reviews

The proposed Annex to Appendix D of 10 CFR Part 50 (hereafter the "Annex") was published for comment on December 1, 1971 by the (former) Atomic Energy Commission. It proposed to specify a set of standardized accident assumptions to be used in Environmental Reports submitted by applicants for construction permits or operating licenses for nuclear power reactors. It also included a system for classifying accidents according to a graded scale of severity and probability of occurrence. Nine classes of accidents were defined, ranging from trivial to very serious. It directed that "for each class, except classes 1 and 9, the environmental consequences shall be evaluated as indicated." Class 1 events were not to be considered because of their trivial consequences, whereas in regard to Class 9 events, the Annex stated as follows:

> The occurrences in Class 9 involve sequences of postulated successive failures more severe than those postulated for the design basis for protective systems and engineered safety features. Their consequences could be severe. However, the probability of their occurrence is so small that their environmental risk is extremely low. Defense in depth (multiple physical barriers), quality assurance for design, manufacture, and operation, continued surveillance and testing, and conservative design are all applied to provide and maintain the required high degree of assurance that potential accidents in this class are, and will remain, sufficiently remote in probability that the environmental risk is extremely low. For these reasons, it is not necessary to discuss such events in applicants' Environmental Reports.

A footnote to the Annex stated:

> Although this annex refers to applicant's Environmental Reports, the current assumptions and other provisions thereof are applicable, except as the content may otherwise require, to AEC draft and final Detailed Statements.

During the public comment period that followed publication of the Annex a number of criticisms of the Annex were received. Principal among these were the following:

(1) The philosophy of prescribing assumptions does not lead to objective analysis.

(2) It failed to treat the probabilities of accidents in any but the most general way.

(3) No supporting analysis was given to show that Class 9 accidents are sufficiently low in probability that their consequences in terms of environmental risks need not be discussed.

(4) No guidance was given as to how accident and normal releases of radioactive effluents during plant operation should be factored into the cost-benefit analysis.

(5) The accident assumptions are not generally applicable to gas cooled or liquid metal cooled reactors.

(6) Safety and environmental risks are not essentially different considerations.

Neither the Atomic Energy Commission nor the NRC took any further action on this rulemaking except in 1974 when 10 CFR Part 51 was promulgated. Over the intervening years the accident considerations discussed in Environmental Impact Statements for proposed nuclear power plants reflected the guidance of the Annex with few exceptions. Typically, the discussions of accident consequences through Class 8 (design basis accidents) for each case have reflected specific site characteristics associated with meteorology (the dispersion of releases of radioactive material into the atmosphere), the actual population within a 50-mile radius of the plant, and some differences between boiling water reactors (BWR) and pressurized water reactors (PWR). Beyond these few specifics, the discussions have reiterated the guidance of the Annex and have relied upon the Annex's conclusion that the probability of occurrence of a Class 9 event is too low to warrant consideration, a conclusion based upon generally stated safety considerations.

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[1] Proposed as an Annex to 10 CFR Part 50, Appendix D, 36 FR 22851. The Commission's NEPA-implementing regulations were subsequently (July 18, 1974) revised and recast as 10 CFR Part 51 but at that time the Commission noted that "The Proposed Annex is still under consideration * * *" 39 FR 26279.

With the publication of the Reactor Safety Study (WASH–1400), in draft form in August 1974 and final form in October 1975, the accident discussions in Environmental Impact Statements began to refer to this first detailed study of the risks associated with nuclear power plant accidents, particularly events which can lead to the melting of the fuel inside a reactor.[2] The references to this study were in keeping with the intent and spirit of NEPA "to disclose" relevant information, but it is obvious that WASH–1400 did not form the basis for the conclusion expressed in the Annex in 1971 that the probability of occurrence of Class 9 events was too low to warrant their (site-specific) consideration under NEPA.

The Commission's staff has, however, identified in certain cases unique circumstances which it felt warranted more extensive and detailed consideration of Class 9 events. One of these was the proposed Clinch River Breeder Reactor Plant (CRBRP), a liquid metal cooled fast breeder reactor very different from the more conventional light water reactor plants for which the safety experience base is much broader. In the Final Environmental Statement for the CRBRP,[3] the staff included a discussion of the consideration it had given to Class 9 events.

In the early site review for the Perryman site, the staff performed an informal assessment of the relative differences in Class 9 accident consequences among the alternative sites. (SECY–78–137)

In the case of the application by Offshore Power Systems to manufacture floating nuclear power plants, the staff judged that the environmental risks of some Class 9 events warranted special consideration. The special circumstances were the potentially serious consequences associated with water (liquid) pathways leading to radiological exposures if a molten reactor core were to fall into the water body on which the plant floats. Here the staff emphasized its focus on risk to the environment but did not find that the probability of a core melt event occurring in the first place was essentially any different than for land-based plant. In its Memorandum and Order In the Matter of Offshore Power Systems,[4] the Commission concurred in the staff's judgment. Thus, the Reactor Safety Study and NRC experience with these cases has served to refocus attention on the need to reemphasize that environmental risk entails both probabilities and consequences, a point that was made in the publication of the Annex, but was not given adequate emphasis.

In July 1977 the NRC commissioned a Risk Assessment Review Group "to clarify the achievements and limitations of the Reactor Safety Study." One of the conclusions of this study, published in September 1978, as NUREG/CR-0400, "Risk Assessment Review Group Report to the U.S. Nuclear Regulatory Commission," was that "The Review Group was unable to determine whether the absolute probabilities of accident sequences in WASH–1400 are high or low, but believes that the error bounds on those estimates are in general, greatly understated." This and other findings of the Review Group have also subsequently been referred to in Environmental Impact Statements, along with a reference to the Commission's policy statement on the Reactor Safety Study in light of the Risk Assessment Review Group Report, published on January 18, 1979. The Commission's statement accepted the findings of the Review Group, both as to the Reactor Safety Study's achievements and as to its limitations.

A few Draft Environmental Statements have been published subsequent to the Three Mile Island accident. These were for conventional land-based light water reactor plants and continued to reflect the past practice with respect to accidents at such plants, but noted that the experience gained from the Three Mile Island accident was not factored into the discussion.

Our experience with past NEPA reviews of accidents and the TMI accident clearly leads us to believe that a change is needed.

Accordingly, the proposed Annex to Appendix D of 10 CFR Part 50, published on December 1, 1971, is hereby withdrawn and shall not hereafter be used by applicants nor by the staff. The reasons for the withdrawal are as follows:

1. The Annex proscribes consideration of the kinds of accidents (Class 9) that, according to the Reactor Safety Study, dominate the accident risk.
2. The definition of Class 9 accidents in the Annex is not sufficiently precise to warrant its further use in Commission policy, rules, and regulations, nor as a decision criterion in agency practice.
3. The Annex's prescription of assumptions to be used in the analysis of the environmental consequences of accidents does not contribute to objective consideration.
4. The Annex does not give adequate consideration to the detailed treatment of measures taken to prevent and to mitigate the consequences of accidents in the safety review of each application.

The classification of accidents proposed in that Annex shall no longer be used. In its place the following interim guidance is given for the treatment of accident risk considerations in NEPA reviews.

Accident Considerations in Future NEPA Reviews

It is the position of the Commission that its Environmental Impact Statements, pursuant to Section 102(c)(i) of the National Environmental Policy Act of 1969, shall include a reasoned consideration of the environmental risks (impacts) attributable to accidents at the particular facility or facilities within the scope of each such statement. In the analysis and discussion of such risks, approximately equal attention shall be given to the probability of occurrence of releases and to the probability of occurrence of the environmental consequences of those releases. Releases refer to radiation and/or radioactive materials entering environmental exposure pathways, including air, water, and ground water.

Events or accident sequences that lead to releases shall include but not be limited to those that can reasonably be expected to occur. In-plant accident sequences that can lead to a spectrum of releases shall be discussed and shall include sequences that can result in inadequate cooling of reactor fuel and to melting of the reactor core. The extent to which events arising from causes external to the plant which are considered possible contributors to the risk associated with the particular plant shall also be discussed. Detailed quantitative considerations that form the basis of probabilistic estimates of releases need not be incorporated in the Environmental Impact Statements but shall be referenced therein. Such references shall include, as applicable, reports on safety evaluations.

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[2] It is of interest that the Reactor Safety Study never refers to nor uses the term "Class 9 accident" although this term is commonly used as loosely equivalent to a core melt accident.

[3] NUREG–0139, February 1977.

[4] Docket No. STN 50–437, September 14, 1979.

The environmental consequences of releases whose probability of occurence has been estimated shall also be discussed in probabilistic terms. Such consequences shall be characterized in terms of potential radiological exposures to individuals, to population groups, and, where applicable, to biota. Health and safety risks that may be associated with exposures to people shall be discussed in a manner that fairly reflects the current state of knowledge regarding such risks. Socioeconomic impacts that might be associated with emergency measures during or following an accident should also be discussed. The environmental risk of accidents should also be compared to and contrasted with radiological risks associated with normal and anticipated operational releases.

In promulgating this interim guidance, the Commission is aware that there are and will likely remain for some time to come many uncertainties in the application of risk assessment methods, and it expects that its Environmental Impact Statements will identify major uncertainties in its probabilistic estimates. On the other hand the Commission believes that the state of the art is sufficiently advanced that a beginning should now be made in the use of these methodologies in the regulatory process, and that such use will represent a contructive and rational forward step in the discharge of its reponsibilities.

It is the intent of the Commission in issuing this Statement of Interim Policy that the staff will initiate treatments of accident considerations, in accordance with the foregoing guidance, in its ongoing NEPA reviews, i.e., for any proceeding at a licensing stage where a Final Environmental Impact Statement has not yet been issued. These new treatments which will take into account significant site- and plant-specific features, will result in more detailed discussions of accident risks than in previous environmental statements, particularly for those related to conventional light water plants at land-based sites. It is expected that these revised treatments will lead to conclusions regarding the environmental risks of accidents similar to those that would be reached by a continuation of current practices, particularly for cases involving special circumstances where Class 9 risks have been considered by the staff, as described above. Thus, this change in policy is not to be construed as any lack of confidence in conclusions regarding the environmental risks of accidents expressed in any previously issued Statements, nor, absent a showing of similar special circumstances, as a basis for opening, reopening, or expanding any previous or ongoing proceeding.[5]

However, it is also the intent of the Commission that the staff take steps to identify additional cases that might warrant early consideration of either additional features or other actions which would prevent or mitigate the consequences of serious accidents. Cases for such consideration are those for which a Final Environmental Statement has already been issued at the Construction Permit stage but for which the Operating License review stage has not yet been reached. In carrying out this directive, the staff should consider relevant site features, including population density, associated with accident risk in comparison to such features at presently operating plants. Staff should also consider the likelihood that substantive changes in plant design features which may compensate further for adverse site features may be more easily incorporated in plants when construction has not yet progressed very far.

Environmental Reports submitted by applicants for construction permits and for operating licenses on or after July 1, 1980 should include a discussion of the environmental risks associated with accidents that follows the guidance given herein.

Related Policy Matters Under Consideration

In addition to its responsibilities under NEPA, the NRC also bears responsibility under the Atomic Energy Act for the protection of the public health and safety from the hazards associated with the use of nuclear energy. Pursuant to this responsibility the Commission notes that there are currently a number of ongoing activities being considered by the Commission and its staff which intimately relate to the "Class 9 accident" question and which are either the subject of current rulemaking or are candidate subjects for rulemaking.

On December 19, 1979 the Commission issued for public comment[6] a proposed rule which would significantly revise its requirements in 10 CFR Part 50 for emergency planning for nuclear power plants. One of the considerations in this rulemaking was the potential consequences of Class 9 accidents in a generic sense.[7]

In August 1979, pursuant to the Commission's request, a Siting Policy Task Force made recommendations with respect to possible changes in NRC reactor siting policy and criteria,[8] currently set forth in 10 CFR Part 100. As stated therein, its recommendations were made to accomplish (among others) the following goal:

> To take into consideration in siting the risk associated with accidents beyond the design basis (Class 9) by establishing population density and distribution criteria.

This matter is currently before the Commission.

This and other recommendations that have been made as a result of the investigations into the Three Mile Island accident are currently being brought together by the Commission's staff in the form of proposed Action Plans.[9] Among other matters, these incorporate recommendations for rulemaking related to degraded core cooling and core melt accidents. The Commission expects to issue decisions on these Action Plans in the near future. It is the Commission's policy and intent to devote NRC's major resources to matters which the Commission believes will make existing and future nuclear power plants safer, and to prevent a recurrence of the kind of accident that occurred at Three Mile Island. In the interim, however, and pending completion of rulemaking activities in the areas of emergency planning, siting criteria, and design and operational safety, all of which involve considerations of serious accident potential, the Commission finds it essential to improve its procedures for describing and disclosing to the public the basis for arriving at conclusions regarding the environmental risks due to accidents at nuclear power plants. On completion of the rulemaking activities in these areas, and based also upon the experience gained with this statement of interim policy and guidance, the Commission intends to pursue possible changes or additions to 10 CFR Part 51 to codify its position on the role of accident risks under NEPA.

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[5] Commissioners Gilinsky and Bradford disagree with the inclusion of the preceding two sentences. They feel that they are absolutely inconsistent with an even-handed reappraisal of the former, erroneous position on Class 9 accidents.

[6] 44 FR 75167.

[7] Cf. NUREG–0396, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," November 1978.

[8] NUREG–0625, "Report of the Siting Policy Task Force," August 1979.

[9] Draft NUREG-0660, "Action Plans for Implementing Recommendations of the President's Commission and Other Studies of the TMI-2 Accident," December 10, 1979.

45 FR 85236
Published 12/24/80

Statement of Policy; Further Commission Guidance for Power Reactor Operating Licenses

Memorandum and Order

Recently the Commission, by a vote of 3–2, issued a Statement of Policy entitled "Further Commission Guidance for Power Reactor Operating Licenses." 45 FR 41738 (June 20, 1980). In essence, the Statement of Policy announced the intent of the Commission that in future actions on nuclear power reactor operating license applications, it would look to the list of "Requirements for New Operating Licenses" found in NUREG–0694 (June 1980) as setting forth requirements for new operating licenses which should be "necessary and sufficient for responding" to the accident at Three Mile Island ("TMI"). Consequently, current operating license applications were to be judged against present NRC regulations, as supplemented by these TMI-related requirements. Insofar as certain of the provisions of NUREG–0694 sought to impose operating license requirements beyond those necessary to show compliance with the regulations:

> Although the [licensing and appeal] boards may entertain contentions asserting that the supplementation is unnecessary (in full or in part) and they may entertain contentions that one or more of the supplementary requirements are not being complied with; they may not entertain contentions asserting that additional supplementation is required. *Id.*

On November 3, 1980, by a vote of 2–2, the Commission denied a request for a stay of the Statement of Policy filed by the Union of Concerned Scientists and the Shoreham Opponents Coalition.

On October 28, 1980, by a vote of 4–0, the Commission approved NUREG–0737, "Clarification of TMI Action Plan Requirements," which is a letter from D. G. Eisenhut, Director of the Division of Licensing, NRR, to licenses of operating power reactors and applicants for operating licenses forwarding post-TMI requirements. NUREG–0737 now supersedes NUREG–0694, the latter being the document which forms the core of the substantive requirements in the aforementioned Statement of Policy. NUREG–0737 makes numerous significant changes in NUREG–0694. In some instances, the requirements in NUREG–0694 are made more flexible, especially as to implementation schedules. In some instances, the requirements in NUREG-0694 are made more strict. In addition, NUREG–0737 adds new requirements, taken from previously issued Bulletins and Orders, which were not part of NUREG–0694.

The Commission's approval of NUREG–0737 requires that some changes be made in the previously adopted Statement of Policy. Moreover, the Commission has now had more time to reflect upon the distinction between interpretive and supplementary requirements, as originally set forth in NUREG–0694 and as modified in NUREG–0737, and believes that the number of supplementary requirements may be quite small. For these reasons, the Commission has decided that the Statement of Policy should be amended as set forth in the Appendix to this Memorandum and Order.[1]

It is so ordered.

Dated at Washington, D.C., this 18th day of December 1980.

For the Commission.

Samuel J. Chilk,
Secretary of the Commission.

U.S. Nuclear Regulatory Commission—Further Commission Guidance For Power Reactor Operating Licenses—Revised Statement of Policy[*]

I. Background

After the March 1979 accident at Three Mile Island, Unit 2, the Commission directed its technical review resources to assuring the safety of operating power reactors rather than to the issuance of new licenses. Futhermore, the Commission decided that power reactor licensing should not continue until the assessment of the TMI accident had been substantially completed and comprehensive improvements in both the operation and regulation of nuclear power plants had been set in motion.

At a meeting on May 30, 1979, the Nuclear Regulatory Commission decided to issue policy guidance addressing general principles for reaching licensing decisions and to provide specific guidance for near-term operating license cases.[1] In November 1979, the Nuclear Regulatory Commission issued the policy guidance in the form of and amendment to 10 CFR Part 2 of its regulations,[2] describing the approach to be taken by the Commision regarding licensing of power reactor. In particular, the Commission noted that it would "be providing case-by-case guidance on changes in regulatory policies." The Commission has now acted on four operating licenses, has given extensive consideration to issues arising as a result of the Three Mile Island accident, and is able to provide general guidance.

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[1] Chairman Ahearne concurs in amending the policy statement, but disagrees in how it should be amended. His dissenting views are attached to the Appendix.

[*] All footnotes for this Statement of policy appear at end of text.

Following the accident at Three Mile Island 2, the President established a Commission to make recommendations regarding changes necessary to improve nuclear safety. In May 1979, the Nuclear Regulatory Commission established a Lessons Learned Task Force,[3] to determine what actions were required for new operating licenses and chartered a Special Inquiry Group to examine all facets of the accident and its causes. These groups have published their reports.[4]

The Lessons Learned Task Force led to NUREG–0578, "TMI–2 Lessons Learned Task Force Status Report and Short-Term Recommendations" and NUREG–0585, "TMI–2 Lessons Learned Task Force Final Report." The Commission addressed these reports in meetings on September 6, September 14, October 14, and October 16, 1979. Following release of the report of the Presidential Commission the Commission provided a preliminary set of responses to the recommendations in that report.[5] This response provided broad policy directions for development of an NRC Action Plan, work on which was begun in November 1979. During the development of the Action Plan, the Special Inquiry Group Report was received, which had the benefit of review by panels of outside consultants representing a cross section of technical and public views. This report provided additional recommendations.

The Action Plan [6] was developed to provide a comprehensive and integrated plan for the actions judged appropriate by the Nuclear Regulatory Commission to correct or improve the regulation and operation of nuclear facilities based on the experience from the accident at TMI–2 and the official studies and investigations of the accident. In developing the Action Plan, the various recommendations and possible actions of all the principal investigations were assessed and either rejected, adopted or modified. A detailed summary of the development and review process for the Action Plan was initially provided in NUREG–0694,[7] "TMI-Related Requirements For New Operating Licenses," and can now be found, as changed, in NUREG–0737, "Clarification of TMI Action Plan Requirements."[8]

Actions to improve the safety of nuclear power plants now operating were judged to be necessary immediately after the accident and could not be delayed until the Action Plan was developed, although they were subsequently included in the Action Plan. Such actions came from the Bulletins and Orders issued immediately after the accident, the first report of the Lessons-Learned Task Force issued in July 1979, the recommendations of the Emergency Preparedness Task Force, and the NRC staff and Commission. Before these immediate actions were applied to operating plants, they were approved by the Commission. Many of the required immediate actions have already been taken by licensees and most are scheduled to be completed in the near future.

On February 7, 1980, based on its review of initial drafts of the Action Plan, the Commission approved a listing of near-term operating license (NTOL) requirements, as being necessary but not necessarily sufficient TMI-related requirements, for granting new operating licenses. Since then, the fuel load requirements on the NTOL list have been used by the Commission in granting operating licenses, with limited authorizations for fuel loading and low power testing, for Sequoyah, North Anna, Salem, and Farley. Full operating licenses were granted, based on the NTOL list, for Sequoyah and North Anna.

On May 15, 1980, after review of the last version of the Action Plan, the Commission approved a list of "Requirements For New Operating Licenses," contained in NUREG–0694, which the staff recommended for imposition on current operating license applicants. That list was recast from the previous NTOL list and sets forth four types of TMI-related requirements and actions for new operating licenses: (1) Those required to be completed by a license applicant prior to receiving a fuel-loading and low-power testing license, (2) those required to be completed by a license applicant to operate at appreciable power levels up to full power, (3) those the NRC will take prior to issuing a fuel-loading and low-power testing or full-power operating license, and (4) those required to be completed by a license prior to a specified date. The Commission also approved the staff's recommendation that the remaining items from the TMI reviews should be implemented or considered over time to further enhance safety.

On October 28, 1980, the Commission approved a "Clarification of TMI Action Plan Requirements," not contained in NUREG–0737, which supersedes NUREG–0694. More explicit requirements, revisions in previous requirements, different time schedules for implementation, and new requirements in NUREG–0694, but taken from previously issued Commission bulletins and orders, form the core of NUREG–0737.

In approving the schedules for developing and implementing changes in requirements, the Commission's primary considerations were the safety significance of the issues and the immediacy of the need for corrective actions. As discussed above, many actions were taken to improve safety immediately or soon after the accident. These actions were generally considered to be interim improvements. In scheduling the remaining improvements, the availability of both NRC and industry resources was considered, as well as the safety significance of the actions. Thus, the Action Plan approved by the Commission presents a sequence of actions that will result in a gradually increasing improvement in safety as individual actions are completed and the initial immediate actions are replaced or supplemented by longer term improvements.

II. Commission Decision

Based upon its extensive review and consideration of the issues arising as a result of the Three Mile Island accident—a review that is still continuing—the Commission has concluded that the list of TMI-related requirements for new operating licenses found in NUREG–0737 can provide a basis for responding to the TMI–2 accident. The Commission has decided that current operating license applications should be measured by the NRC staff against the regulations, as augmented by these requirements.[9] In general, the remaining items of the Action Plan should be addressed through the normal process for development and adoption of new requirements rather than through immediate imposition on pending applications.

III. Litigation of TMI–2 Issued in Operating License Proceedings

In the November 1979 policy statement, the Commission provided the following guidance for the conduct of adjudicatory proceedings:

> In reaching their decision, the Boards should interpret existing regulations and regulatory policies with due consideration to the implications for those regulations and policies of the Three Mile Island Accident. In this regard, it should be understood that as a result of analyes still underway, the Commission may change its present regulations and regulatory policies in important aspects and thus compliance with existing regulations may turn out to no longer warrant approval of a license application.

The Commission is now able to give the Boards more guidance.

The Commission believes the TMI-related operating license requirements list as derived from the process described above should be the principal basis for consideration of TMI-related issues in the adjudicatory process. There are good reasons for this. First, this represents a major effort by the staff and Commissioners to address more than one hundred issues and recommendations in a coherent and coordinated fashion. This entire process cannot be reproduced in individual proceedings. Second, the NRC does not have the resources to litigate the entire Action Plan in each proceeding. Third, many of the decisions involve policy more than factual or legal decisions. Most of these are more appropriately addressed by the Commission itself on a generic basis than by an individual licensing board in a particular case. Consequently, the Commission has chosen to adopt the following policy regarding litigation of TMI-related issues in operating license proceedings.

The "Clarification of Action Plan Requirements" in NURGE–0737, like the TMI-related "Requirements For New Operating Licenses" in NURGE–0694, can, in terms of their relationship to existing Commission regulations, be put in two categories: (1) Those that interpret, refine or quantify the general language of existing regulations, and (2) those that supplement the existing regulations by imposing requirements in addition to specific ones already contained therein. Insofar as the first category—refinement of existing regulations—is concerned, the parties may challenge the new requirements as unnecessary on the one hand or insufficient on the other within the limits of the regulations.

Insofar as the second category—supplementation of existing regulations—is concerned, the parties may challenge either the necessity for or sufficiency of such requirements. It would be useful if the parties in taking a position on such requirements stated (a) the nexus of the issue to the TMI–2 accident, (b) the significance of the issue, and, (c) any differences between their positions and the rationale underlying the Commission consideration of additional TMI-related requirements. It would be helpful if any certifications of questions regarding such positions to the Commission included the same information and such certifications are encouraged where Boards are in doubt as to the Commission's intentions in approving NUREG–0737. The Atomic Safety and Licensing and Appeal Boards' present authority to raise issues *sua sponte* under 10 CFR 2.760a extends to both categories.

In order to focus litigation of TMI-related issues, the staff and the Boards should use the Commission's existing summary disposition procedures, where applicable, in responding to TMI-related contentions.

The Commission believes that where the time for filing contentions has expired in a given case, no new TMI-related contentions should be accepted absent a showing of good cause and balancing of the factors in 10 CFR 2.714(A)(1). The Commission expects adherence to its regulations in this regard.

Also, present standards governing the reopening of hearing records to consider new evidence on TMI-related issues should be adhered to. Thus, for example, where initial decisions have been issued, the record should not be reopened to take evidence on some TMI-related issue unless the party seeking reopening shows that there is significant new evidence, not included in the record, that materially affects the decision.

Finally, the Commission will continue to monitor developments with regard to the litigation of our Action Plan requirements and will continue to offer guidance where appropriate.

Dated at Washington, D.C., the 18th day of December 1980.

Samuel J. Chilk,
Secretary of the Commission.

Footnotes

[1] "Staff Requirements—Discussion of Options Regarding Deferral of Licenses," memorandum from Samuel J. Chilk, Secretary to Lee V. Gossick, Executive Director for Operations, May 31, 1979.

[2] "Suspension of 10 CFR 2.764 and Statement of Policy on Conduct of Adjudicatory Proceedings," 44 FR 65050 (November 9, 1979).

[3] "Lessons Learned from TMI–2 Accident," Roger Mattson to NRR staff, May 31, 1979.

[4] Report of the President's Commission on The Accident at Three Mile Island, "The Need for Change: The Legacy of TMI," October 1979;

U.S. Nuclear Regulatory Commission, "TMI–2 Lessons Learned Task Force Status Report and Short-Term Recommendations," NUREG–0578, July 1979;

U.S. Nuclear Regulatory Commission, "TMI–2 Lessons Learned Task Force Status Report," NUREG–0585, August 1979;

U.S. Nuclear Regulatory Commission Special Inquiry Group, "Three Mile Island: A Report to the Commissioners and to the Public," January 1980.

[5] U.S. Nuclear Regulatory Commission, "NRC Views and Analysis of the Recommendations of the President's Commission on the Accident at Three Mile Island," NUREG–0632, November 1979.

[6] U.S. Nuclear Regulatory Commission, "NRC Action Plans Developed as a Result of the TMI–2 Accident," NUREG–0660.

[7] U.S. Nuclear Regulatory Commission, "TMI-Related Requirements for New Operating Licenses," NUREG–0694, June 1980.

[8] U.S. Nuclear Regulatory Commission, "Clarification of TMI Action Plan Requirements," NUREG–0737, November 1980.

[9] Consideration of applications for an operating license should include the entire list of requirements unless an applicant specifically requests an operating license with limited authorization (e.g., fuel loading and low-power testing).

Chairman Ahearne's Dissenting Views

I now support amending the guidance for litigating TMI–2 issues for the reasons mentioned in the Commission order and below. However, I do not support the Commission's revised statement of policy. Little guidance is provided to either the Board or the parties—they are simply told they can litigate whatever they wish and it would be "useful" or "helpful" to address certain questions.

Throughout the development of the TMI Action Plan and the various policy statements, I have believed the Commissioners should play a central role in determining the appropriate response to the TMI–2 accident. Unfortunately the "Revised Statement of Policy" relinquishes Commission control and attention from a major portion of this process. Therefore I would have preferred the following approach:

Revised Statement of Policy

I. Background

In June 1980 the Commission issued a Statement of Policy dealing with TMI-related requirements for new operating licenses.[1] This statement outlined the process by which the Commission evaluated the TMI–2 accident and then agreed to a list of requirements to be adopted in response to the accident.[2] It then provided guidance for litigation of TMI–2 issues in operating license proceedings.

Subsequently substantial controversy developed over the statement—particularly over treatment of requirements and issues which go beyond existing regulations. Due in part to this controversy, in part to a change in the composition of the Commission, in part to the uncertain results of ongoing litigation, and in part to confusion created by subsequent Commission statements, the Commission has decided to modify this aspect of the policy statement. In the long run the Commission believes it will save time by modifying its guidance at this juncture.

II. Modified Commission Guidance of Litigation on TMI–2 Issues in Operating License Proceedings

In the June Statement of Policy the Commission described the TMI-related requirements as falling into two categories: "(1) Those that interpret, refine or quantify the general language of existing regulations, and (2) those that supplement the existing regulations by imposing requirements in addition to specific ones already contained therein." The Commission is modifying its guidance with respect to the second category. Rather than entirely precluding litigation of requirements that go beyond the regulations (other than those found in the Commission's list of requirements), the Commission will now provide parties an opportunity to certify such questions to the

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[1] "Further Commission Guidance for Power Reactor Operating Licenses; Statement of Policy," 45 FR 41738 (June 20, 1980).

[2] "TMI-Related Requirements for New Operating Licenses," NUREG–0694 (June 1980) as modified by "Clarification of TMI Action Plan Requirements," NUREG–0737 (Nov. 1980).

Commission. To the extent that an issue addresses items within the current regulations, certification is unnecessary since litigation was permissible under the original policy statement. However issues which raise matters going beyond the existing regulations may now be certified directly to the Commission.[3]

A request for certification should clearly present (a) the nexus of the issue to the TMI–2 accident (i.e., in what way does the TMI accident provide a basis for the concerns presented), (b) the significance of the issue (i.e., what is the consequence of not addressing the issue), (c) to the extent possible, the differences in rationale underlying the certification from the rationale underlying the Commission consideration of additional TMI-related requirements (e.g., different reasoning, incorrect assumptions, incomplete information).

To the extent that a contention raises the need for a requirement already included in the Commission's list of requirements for new operating licenses, certification is necessary. As under the old policy statement, litigation of the need for those requirements is permitted without further action by the Commission. The Commission itself has already found sufficient basis for allowing consideration of those items.

It should be emphasized that this policy statement (as well as the previous policy statement) is intended to address issues arising from the TMI–2 accident. Other issues are to be treated according to normal Commission procedures.[4]

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46 FR 7540
Published 1/23/81
Effective 1/23/81

Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Statement of Policy.

SUMMARY: The Nuclear Regulatory Commission has revised its statement of policy regarding criteria for guidance of States and NRC in discontinuance of NRC regulatory authority and assumption of regulatory authority by States through agreement. This action is necessary to make editorial changes to update the policy statement, to allow States to enter into agreements for low-level waste only, and to incorporate the provisions and requirements of the Uranium Mill Tailings Radiation Control Act of 1978. Adoption of this policy will allow interested States to enter into agreements with the NRC and regulate low-level waste sites only. Additionally, those States that meet the criteria for the regulation of uranium mills and tailings may exercise regulatory authority over these sources as provided by the Uranium Mill Tailings Radiation Control Act of 1978, as amended.

The revised statement of policy reflects the following principal changes:

1. Modification of Criterion 27 to allow a State to seek an agreement for the regulation of low-level waste as a seperate category.
2. Inclusion of additional criteria for States wishing to continue regulating uranium and thorium processors and mill tailings after November 8, 1981.
3. Editorial and clarifying changes to make the statement current.

DATES: This policy statement is effective January 23, 1981.

FOR FURTHER INFORMATION CONTACT: John F. Kendig, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone: 301-492-7767.

SUPPLEMENTARY INFORMATION:

1. These criteria were developed to implement a program, authorized by Pub. L. 86–373 which was enacted in the form of a new section to the Atomic Energy Act (Section 274) and approved by the President on September 23, 1959 and amended by Pub. L. 95–604 approved November 8, 1978. These criteria are intended to indicate factors which the Commission intends to consider in approving new or amended agreements. They are not intended to limit Commission discretion in viewing individual agreements or amendments. In accordance with these statutory provisions, when an agreement between a State and the NRC is effected, the Commission will discontinue its regulatory authority within that State over one or more of the following materials: byproduct material as defined in Section 11e(1) of the Act (radioisotopes), byproduct material as defined in Section 11e(2) of the Act (mill tailings or wastes), source material (uranium and thorium), special nuclear material (uranium 233, uranium 235 and plutonium) in quantities not sufficient to form a critical mass and permanent disposal of low-level waste containing one or more of the materials stated above but not including mill tailings.

2. An agreement may be effected between a State and NRC: (1) upon certification by the Governor that the State has a program for the control of radiation hazards adequate to protect the public health and safety with respect to the materials within the State covered by the proposed agreement and the State desires to assume regulatory responsibility for such materials; and (2) after a finding by the Commission that the State program is in accordance with the requirements of subsection o of section 274 and in all other respects compatible with the Commission's program for the regulation of such materials, and is adequate to protect the public health and safety with respect to the materials covered by the proposed agreement. It is also necessary that the State have enabling legislation authorizing its Governor to enter into such an agreement.

3. The original criteria were published on March 24, 1961 (26 FR 2537) after discussions with various State officials and other State representatives, to provide guidance and assistance to the States and the AEC (now NRC) in developing a regulatory program which would be compatible with that of the NRC. The criteria were circulated among States, Federal agencies, labor and industry, and other interested groups for comment.

4. The criteria require that the State authority consider the total accumulated occupational radiation exposure of individuals. To facilitate such an appoach, it is the view of the NRC that an overall radiation protection program is desirable. The maximum scope of

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[3] The Licensing Board should certify any such questions directly to the Commission. In the event that a party wishes to request directed certification, the Board should be given a reasonable opportunity to address the certification question prior to Commission action since (a) the Board might rule that the issue is within the existing regulations rendering certification unnecessary and (b) otherwise it would be helpful to have the benefit of the Board's reasoning. *See Toledo Edison Co.* (Davis-Besse Nuclear Power Station, Unit 1), ALAB-297, 7 NRC 727 (1978).

[4] *See e.g.*, 10 CFR 2.758.

each State's radiation protection program is not, however, a necessary or appropriate subject for coverage in the criteria. Consequently, the criteria are silent on the question of whether a State should have a total regulatory program covering all sources of radiation, including those not subject to control by the NRC under the Atomic Energy Act, such as x-rays, radium, accelerators, etc.

5. These revised criteria provide for entering into an agreement for a separate category of materials, namely, low-level waste material in permanent disposal facilities. They also provide new criteria for States wishing to continue regulating uranium and thorium processing and the wastes resulting therefrom under the provisions of the Uranium Mill Tailings Radiation Control Act of 1978 (Pub. L. 95–604) after November 8, 1981. The revised criteria also contain a number of editorial changes such as changing AEC to NRC where appropriate to conform to present practice and law.

6. Inquiries about details of the criteria or other aspects of the NRC Federal-State Relations Program should be addressed to the Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Criteria [1]

Objectives

1. *Protection.* A State regulatory program shall be designed to protect the health and safety of the people against radiation hazards.

Radiation Protection Standards [2]

2. *Standards.* The State regulatory program shall adopt a set of standards for protection against radiation, which shall apply to byproduct, source and special nuclear materials in quantities not sufficient to form a critical mass.

3. *Uniformity in Radiation Standards.* It is important to strive for uniformity in technical definitions and terminology, particularly as related to such things as units of measurement and radiation dose. There shall be uniformity on maximum permissible doses and levels of radiation and concentrations of radioactivity, as fixed by Part 20 of the NRC regulations based on officially approved radiation protection guides.

4. *Total Occupational Radiation Exposure.* The regulatory authority shall consider the total occupational radiation exposure of individuals, including that from sources which are not regulated by it.

5. *Surveys, Monitoring.* Appropriate surveys and personnel monitoring under the close supervision of technically competent people are essential in achieving radiological protection and shall be made in determining compliance with safety regulations.

6. *Labels, Signs, Symbols.* It is desirable to achieve uniformity in labels, signs and symbols, and the posting thereof. However, it is essential that there be uniformity in labels, signs, and symbols affixed to radioactive products which are transferred from person to person.

7. *Instruction.* Persons working in or frequenting restricted areas [3] shall be instructed with respect to the health risks associated with exposure to radioactive materials and in precautions to minimize exposure. Workers shall have the right to request regulatory authority inspections as per 10 CFR 19, section 19.16 and to be represented during inspections as specified in section 19.14 of 10 CFR 19.

8. *Storage.* Licensed radioactive material in storage shall be secured against unauthorized removal.

9. *Waste Disposal.* The standards for the disposal of radioactive materials into the air, water, and sewers, and burial in the soil shall be in accordance with Part 20. Holders of radioactive material desiring to release or dispose of quantities in excess of the prescribed limits shall be required to obtain special permission from the appropriate regulatory authority.

10. *Regulations Governing Shipment of Radioactive Materials.* The State shall to the extent of its jurisdiction promulgate regulations applicable to the shipment of radioactive materials, such regulations to be compatible with those established by the U.S. Department of Transportation and other agencies of the United States whose jurisdiction over interstate shipment of such materials necessarily continues. State regulations regarding transportation of radioactive materials must be compatible with 10 CFR Part 71.

11. *Records and Reports.* The State regulatory program shall require that holders and users of radioactive materials (a) maintain records covering personnel radiation exposures, radiation surveys, and disposals of materials; (b) keep records of the receipt and transfer of the materials; (c) report significant incidents involving the materials, as prescribed by the regulatory authority; (d) make available upon request of a former employee a report of the employee's exposure to radiation; (e) at request of an employee advise the employee of his or her annual radiation exposure; and (f) inform each employee in writing when the employee has received radiation exposure in excess of the prescribed limits.

12. *Additional Requirements and Exemptions.* Consistent with the overall criteria here enumerated and to accommodate special cases or circumstances, the State regulatory authority shall be authorized in individual cases to impose additional requirements to protect health and safety, or to grant necessary exemptions which will not jeopardize health and safety.

Prior Evaluation of Uses of Radioactive Materials

13. *Prior Evaluation of Hazards and Uses, Exceptions.* In the present state of knowledge, it is necessary in regulating the possession and use of byproduct, source and special nuclear materials that the State regulatory authority require the submission of information on, and evaluation of, the potential hazards and the capability of the user or possessor prior to his receipt of the materials. This criterion is subject to certain exceptions and to continuing reappraisal as knowledge and experience in the atomic energy field increase. Frequently there are, and increasingly in the future there may be, categories of materials and uses as to which there is sufficient knowledge to permit possession and use without prior evaluation of the hazards and the capability of the possessor and user. These categories fall into two groups—those materials and uses which may be completely exempt from regulatory controls, and those materials and uses in which sanctions for misuse are maintained without pre-evaluation of the individual possession or use. In authorizing research and development or other activities involving multiple uses of radioactive materials, where an institution has people with extensive training and experience, the State regulatory authority may wish to provide a means for authorizing broad use of materials without evaluating each specific use.

14. *Evaluation Criteria.* In evaluating a proposal to use radioactive materials, the regulatory authority shall determine the adequacy of the applicant's facilities

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[1] The criteria were first adopted in February 1961 (26 FR 2537, March 24, 1961, and amended in November 1965 (30 FR 15044, December 4, 1965). Minor editorial changes were made in June 1968 to reflect the authority of the U.S. Department of Transportation and Organization change in NCRP.

[2] Suggested State regulations and State legislation will give content to all criteria enunciated.

[3] "Restricted area" means any area access to which is controlled by the licensee for the purpose of radiation protection of individuals from exposure to radiation and radioactive materials. "Restricted area" shall not include any area used as residential quarters, although a separate room or rooms in a residential building may be set apart as a restricted area.

and safety equipment, his training and experience in the use of the materials for the purpose requested, and his proposed administrative controls. States should develop guidance documents for use by license applicants. this guidance should be consistent with NRC licensing and regulatory guides for various categories of licensed activities.

15. *Human Use.* The use of radioactive materials and radiation on or in humans shall not be permitted except by properly qualified persons (normally licensed physicians) possessing prescribed minimum, experience in the use of radioisotopes or radiation.

Inspection

16. *Purpose, Frequency.* The possession and use of radioactive materials shall be subject to inspection by the regulatory authority and shall be subject to the performance of tests, as required by the regulatory authority. Inspection and testing is conducted to determine, and to assist in obtaining, compliance with regulatory requirements.

Freqency of inspection shall be related directly to the amount and kind of material and type of operation licensed, and it shall be adequate to insure compliance.

17. *Inspections Compulsory.* Licensees shall be under obligation by law to provide access to inspectors.

18. *Notification of Results of Inspection.* Licensees are entitled to be advised of the results of inspections and to notice as to whether or not they are in compliance.

Enforcement

19. *Enforcement.* Possession and use of radioactive materials should be amenable to enforcement through legal sanctions, and the regulatory authority shall be equipped or assisted by law with the necessary powers for prompt enforcement. This may include, as appropriate, administrative remedies looking toward issuance of orders requiring affirmative action or suspension or revocation of the right to possess and use materials, and the impounding of materials, the obtaining of injunctive relief, and the imposing of civil or criminal penalties.

Personnel

20. *Qualifications of Regulatory and Inspection Personnel.* The regulatory agency shall be staffed with sufficient trained personnel. Prior evaluation of applications for licenses or authorizations and inspection of licensees must be conducted by persons possessing the training and experience relevant to the type and level of radioactivity in the proposed use to be evaluated and inspected. This requires competency to evaluate various potential radiological hazards associated with the many uses of radioactive material and includes concentrations of radioactive materials in air and water, conditions of shielding, the making of radiation measurements, knowledge of radiation instruments—their selection, use and calibration—laboratory design, contamination control, other general principles and practices of radiation protection, and use of management controls in assuring adherence to safety procedures. In order to evaluate some complex cases, the State regulatory staff may need to be supplemented by consultants or other State agencies with expertise in geology, hydrology, water quality, radiobiology and engineering disciplines.

To perform the functions involved in evaluation and inspection, it is desirable that there be personnel educated and trained in the physical and/or life sciences, including biology, chemistry, physics and engineering, and that the personnel have had training and experience in radiation protection. For example, the person who will be responsible for the actual performance of evaluation and inspection of all of the various uses of byproduct, source and special nuclear material which might come to the regulatory body should have substantial training and extensive experience in the field of radiation protection. It is desirable that such a person have a bachelor's degree or equivalent in the physical or life sciences, and specific training-radiation protection.

It is recognized that there will also be persons in the program performing a more limited function in evaluation and inspection. These persons will perform the day-to-day work of the regulatory program and deal with both routine situations as well as some which will be out of the ordinary. These persons should have a bachelor's degree or equivalent in the physical or life sciences, training in health physics, and approximately two years of actual work experience in the field of radiation protection.

The foregoing are considered desirable qualifications for the staff who will be responsible for the actual performance of evaluation and inspection. In addition, there will probably be trainees associated with the regulatory program who will have an academic background in the physical or life sciences as well as varying amounts of specific training in radiation protection but little or no actual work experience in this field. The background and specific training of these persons will indicate to some extent their potential role in the regulatory program. These trainees, of course, could be used initially to evaluate and inspect those applications of radioactive materials which are considered routine or more standardized from the radiation safety standpoint, for example, inspection of industrial gauges, small research programs, and diagnostic medical programs. As they gain experience and competence in the field, trainees could be used progressively to deal with the more complex or difficult types of radioactive material applications. It is desirable that such trainees have a bachelor's degree or equivalent in the physical or life sciences and specific training in radiation protection. In determining the requirement for academic training of individuals in all of the foregoing categories proper consideration should be given to equivalent competency which has been gained by appropriate technical and radiation protection experience.

It is recognized that radioactive materials and their uses are so varied that the evaluation and inspection. functions will require skills and experience in the different disciplines which will not always reside in one person. The regulatory authority should have the composite of such skills either in its employ or at its command, not only for routine functions, but also for emergency cases.

Special Nuclear Material, Source Material and Tritium

21. *Conditions Applicable to Special Nuclear Material, Source Material and Tritium.* Nothing in the State's regulatory program shall interfere with the duties imposed on the holder of the materials by the NRC, for example, the duty to report to the NRC, on NRC prescribed forms (1) transfers of special nuclear material, source material and tritium, and (2) periodic inventory data.

22. *Special Nuclear Material Defined.* Special nuclear material, in quantities not sufficient to form a critical mass, for present purposes means uranium enriched in the isotope U-235 in quantities not exceeding 350 grams of contained U-235; uranium 233 in quantities not exceeding 200 grams; plutonium in quantities not exceeding 200 grams; or any combination of them in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of

such ratios for all of the kinds of special nuclear material in combination should not exceed "1" (i.e., unity). For example, the following quantities in combination would not exceed the limitation and are within the formula, as follows:

$$\frac{175 \text{ (grams contained U-235)}}{350} + \frac{50 \text{ (grams U-233)}}{200} + \frac{50 \text{ (grams Pu)}}{200} = 1$$

(This definition is subject to change by future Commission rule or regulation.)

Administration

23. State practices for assuring the fair and impartial administration of regulatory law, including provision for public participation where appropriate, should be incorporated in procedures for:

a. Formulation of rules of general applicability;

b. Approving or denying applications for licenses or authorization to possess and use radioactive materials, and

c. Taking disciplinary actions against licensees.

Arrangements For Discontinuing NRC Jurisdiction

24. *State Agency Designation.* The State should indicate which agency or agencies will have authority for carrying on the program and should provide the NRC with a summary of that legal authority. There should be assurances against duplicate regulation and licensing by State and local authorities, and it may be desirable that there be a single or central regulatory authority.

25. *Existing NRC Licenses and Pending Applications.* In effecting the discontinuance of jurisdiction, appropriate arrangements will be made by NRC and the State to ensure that there will be no interference with or interruption of licensed activities or the processing of license applications, by reason of the transfer. For example, one approach might be that the State, in assuming jurisdiction, could recognize and continue in effect, for an appropriate period of time under State law, existing NRC licenses, including licenses for which timely applications for renewal have been filed, except where good cause warrants the earlier reexamination or termination of the license.

26. *Relations With Federal Government and Other States.* There should be an interchange of Federal and State information and assistance in connection with the issuance of regulations and licenses or authorizations, inspection of licensees, reporting of incidents and violations, and training and education problems.

27. *Coverage, Amendments, Reciprocity.* An agreement providing for discontinuance of NRC regulatory authority and the assumption of regulatory authority by the State may relate to any one or more of the following categories of materials within the State, as contemplated by Public Law 86–373 and Public Law 95–604:

a. Byproduct materials as defined in section 11e(1) of the Act,

b. Byproduct materials as defined in section 11e(2) of the Act,

c. Source materials,

d. Special nuclear materials in quantities not sufficient to form a critical mass,

e. Low-level wastes in permanent disposal facilities, as defined by statute or Commission rules or regulations containing one or more of the materials stated in a, c, and d above but not including byproduct material as defined in Section 11e(2) of the Act;

but must relate to the whole of such category or categories and not to a part of any category.[4] If less than the five categories are included in any discontinuance of jurisdiction, discontinuance of NRC regulatory authority and the assumption of regulatory authority by the State of the others may be accomplished subsequently by an amendment or by a later agreement.

The agreement may incorporate by reference provisions of other documents, including these criteria, and the agreement shall be deemed to incorporate without specific reference the provisions of Pub. L. 86–373 and Pub. L. 95–604 and the related provisions of the Atomic Energy Act.

Arrangements should be made for the reciprocal recognition of State licenses and Federal licenses in connection with out-of-the-jurisdiction operations by a State or Federal licensee.

28. *NRC and Department of Energy Contractors.* The State should provide exemptions for NRC and DOE contractors which are substantially equivalent to the following exemptions:

a. Prime contractors performing work for the DOE at U.S. Government-owned or controlled sites;

b. Prime contractors performing research in, or development, manufacture, storage, testing, or transportation of, atomic weapons or components thereof;

c. Prime contractors using or operating nuclear reactors or other nuclear devices in a U.S. Government-owned vehicle or vessel; and

d. Any other prime contractor or subcontractor of DOE or NRC when the State and the NRC jointly determine (i) that, under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety and (ii) that the exemption of such contractor or subcontractor is authorized by law.

Additional Criteria for States Regulating Uranium or Thorium Processors and Wastes Resulting Therefrom After November 8, 1981

Statutes

29. State statutes or duly promulgated regulations should be enacted, if not already in place, to make clear State authority to carry out the requirements or Public Law 95–604, Uranium Mill Tailings Radiation Control Act (UMTRCA) as follows:

a. Authority to regulate the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.

b. That an adequate surety (under terms established by regulation) will be provided by the licensee to assure the completion of all requirements established by the (cite appropriate State agency) for the decontamination, decommissioning, and reclamation of sites, structures, and equipment used in conjunction with the generation or disposal of such byproduct material.

c. If in the States' licensing and regulation of byproduct material or of any activity which produces byproduct material, the State collects funds from the licensee or its surety for long-term surveillance and maintenance of such material, the total amount of the funds collected by the State shall be transferred to the U.S. if custody of the byproduct material and its disposal site is transferred to the Federal Government upon termination of the State license. (See 10 CFR 150.32.) If no default has occurred and the reclamation or other bonded activity has been performed, funds for the purpose are not to be transferred to the Federal Government. The funds collected by the State shall be sufficient to ensure compliance with the regulations the Commission establishes pursuant to Section 161X of the Atomic Energy Act.

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[4] A State which does not wish to continue regulation of uranium and thorium processors and byproduct material, as defined in Section 11e.(2) of the Atomic Energy Act as amended, after November 8, 1981 pursuant to Pub. L. 95–604 may obtain authority over all source material licenses within the State except for uranium or thorium processors.

d. In the issuances of licenses, an opportunity for written comments, public hearing (with transcript) and cross examination is required.

e. In the issuances of licenses, a written determination of the action to be taken based upon evidence presented during the public comment period and which is subject to judicial review is required.

f. A ban on major construction prior to completion of the aforementioned stipulations.

g. An opportunity shall be provided for public participation through written comments, public hearings, and judicial review of rules.

30. In the enactment of any supporting legislation, the State should take into account the reservations of authority to the U.S. in UMTRCA as stated in 10 CFR 150.15a and summarized by the following:

a. The establishment of minimum standards governing reclamation, long-term surveillance or maintenance, and ownership of the byproduct material.

b. The determination that prior to the termination of a license, the licensee has complied with decontamination, decommissioning and reclamation standards, and ownership requirements for sites at which byproduct material is present.

c. The requirement that prior to termination of any license for byproduct material, as defined in Section 11e.(2), of the Atomic Energy Act or for any activity that results in the production of such material, title to such byproduct material and the disposal site be transferred to the Federal Government or State at the option of the State, provided such option is exercised prior to termination of the license.

d. The authority to require such monitoring, maintenance, and emergency measures after the license is terminated as necessary to protect the public health and safety for those materials and property for which the State has assumed custody pursuant to Pub. L. 95–604.

e. The authority to permit use of the surface or subsurface estate, or both of the land transferred to the United States or State pursuant under provision of the Uranium Mill Radiation Tailings Control Act.

f. The authority to exempt land ownership transfer requirements of Section 83(b)(1)(A).

31. It is preferable that State statutes contain the provisions of Section 6 of the Model Act, But the following may be accomplished by adoption of either procedures by regulation or technical criteria. In any case, authority for their implementation should be adequately supported by statute, regulation or case law as determined by the State Attorney General.

In the licensing and regulation of ores processed primarily for their source material content and for the disposal of byproduct material, procedures shall be established which provide a written analysis of the impact on the environment of the licensing activity. This analysis shall be available to the public before commencement of hearings and shall include:[*]

a. An assessment of the radiological and nonradiological public health impacts;

b. An assessment of any impact on any body of water or groundwater;

c. Consideration of alternatives to the licensed activities; and

d. Consideration of long-term impacts of licensed activities (see Item 36b.(1).

Regulations

32. State regulations should be reviewed for regulatory requirements, and where necessary incorporate regulatory language which is equivalent to the extent practicable or more stringent than regulations and standards adopted and enforced by the Commission, as required by Section 274o (see 10 CFR 40 and 10 CFR 150.31(b)).

Organizational Relationships Within the States

33. Organizational relationships should be established which will provide for an effective regulatory program for uranium mills and mill tailings.

a. Charts should be developed which show the management organization and lines of authority. This chart should define the specific lines of supervision from program management within the radiation control group and any other department within the State responsible for contributing to the regulation of uranium processing and disposal of tailings. When other State agencies or regional offices are utilized, the lines of communication and administrative control between the agencies and/or regions and the Program Director should be clearly drawn.

b. Those States that will utilize personnel from other State Departments or Federal agencies in preparing the environmental assessment should designate a lead agency for supervising and coordinating preparation of this environmental assessment. It is normally expected that the radiation control agency in Agreement States will be the lead agency. The basic premise is that the lead agency is required to prepare the environmental assessment. Utilization of an applicant's environmental report in lieu of a lead agency assessment of the proposed project is not adequate or appropriate. However, the lead agency may prepare an environmental assessment based upon an applicant's environmental report. Other credible information may be utilized by the State as long as such information is verified and documented by the State.

c. When a lead agency is designated, that agency should coordinate preparation of the statement. The other agencies involved should provide assistance with respect to their areas of jurisdiction and expertise. Factors relevant in obtaining assistance from other agencies include the applicable statutory authority, the time sequence in which the agencies become involved, the magnitude of their involvement, and relative expertise with respect to the project's environmental effects.

In order to bring an environmental assessment to a satisfactory conclusion, it is highly recommended that an initial scoping document be developed which clearly delineates the area and scope of work to be performed by each agency within a given time constraint.

d. For those areas in the environmental assessment where the State cannot identify a State agency having sufficient expertise to adequately avaluate the proposal or prepare an assessment, the State should have provisions for obtaining outside consulting services. In those instances where non-governmenatal consultants are utilized, procedures should be established to avoid conflict of interest consistent with State law and administrative procedures.

Medical consultants recognized for their expertise in emergency medical matters, such as the Oak Ridge and Hanford National Laboratories, relating to the intake or uranium and its diagnosis thereof associated with uranium mining and milling should be identified and available to the State for advice and direct assistance.

During the budget preparation, the State should allow for funding costs incurred by the use of consultants. In addition, consultants should be available for any emergencies which may occur and for which their expertise would be needed immediately.

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[*] It is strongly recommended that a 30-day period be provided for public review.

Personnel

34. Personnel needed in the processing of the license application can be identified or grouped according to the following skills: Technical; Administrative; and Support.

a. Administrative personnel are those persons who will provide internal guides, policy memoranda, reviews and managerial services necessary to assure completion of the licensing action. Support personnel are those persons who provide secretarial, clerical support, legal, and laboratory services. Technical personnel are those individuals who have the training and experience in radiation protection necessary to evaluate the enginering and radiological safety aspects of a uranium concentrator. Current indications are that 2 to 2.75 total professional person years' effort is needed to process a new conventional mill license, in situ license, or major renewal, to meet the requirements of UMTRCA. This number includes the effort for the environmental assessment and the in-plant safety review. It also includes the use of consultants. Heap leach applications may take less time and is expected to take 1.0 to 1.5 professional staff years' effort, depending on the circumstances encountered. Current indications are that the person years effort for support and legal services should be one secretary for approximately 2 conventional mills and ½ staff years for legal services for each noncontested mill case. The impact on environmental monitoring laboratory support services is difficult to estimate but should be added into the personnel requirements.

In addition, consideration should be given to various miscellaneous post-licensing ongoing activities including the issuance of minor amendments, inspections, and environmental surveillance. It is estimated that these activities may require about 0.5 to 1 person years effort per licensed facility per year, the latter being the case for a major facility. These figures do not include manpower for Title I activitives of UMTRCA.

b. In evaluating license applications the State shall have access to necessary specialities, e.g., radiological safety, hydrology, geology and dam construction and operation.

In addition to the personnel qualifications listed in the "Guide for Evaluation of State Radiation Control Programs," Revision 3, February 1, 1980, the regulatory staff involved in the regulatory process (Radiation) should have additional training in Uranium Mill Health Physics and Environmental Assessments.

c. Personnel in agencies other than the lead agency are included in these total person year numbers. If other agencies are counted in these numbers then it shall be demonstrated that these personnel will be available on a routine and continuing basis to a degree claimed as necessary to successfully comply with the requirements of UMTRCA and these criteria. The arrangements for making such resources available shall be documented, such as an interagency memorandum of understanding and confirmed by budgetary cost centers.

Functions To Be Covered

35. The States should develop procedures for licensing, inspection, and preparation of environmental assessments.

a. *Licensing*

(1) Licensing evaluations or assessments should include in-plant radiological safety aspects in occupational or restricted areas and environmental impacts to populations in unrestricted areas from the plant.

(2) It is expected that the State will review, evaluate and provide documentation of these evaluations. Items which should be evaluated are:

(a) Proposed activities;
(b) Scope of proposed action;
(c) Specific activities to be conducted;
(d) Administrative procedures;
(e) Facility organization and radiological safety responsibilities, authorities, and personnel qualifications;
(f) Licensee audits and inspections;
(g) Radiation safety training programs for workers;
(h) Radiation safety program, control and monitoring;
(i) Restricted area markings and access control;
(j) At existing mills, review of monitoring data, exposure records, licensee audit and inspection records, and other records applicable to existing mills;
(k) Environmental monitoring;
(l) Emergency procedures, radiological;
(m) Product transportation; and
(n) Site and physical decommissioning procedures, other than tailings.
(o) Employee exposure data and bioassay programs.

b. *Environmental Assessment*

(1) The environmental evaluation should consist of a detailed and documented evaluation of the following items:

(a) Topography;
(b) Geology;
(c) Hydrology and water quality;
(d) Meteorology;
(e) Background radiation;
(f) Tailings retention system;
(g) Interim stabilization, reclamation, and Site Decommissioning Program;
(h) Radiological Dose Assessment;
(1) Source terms
(2) Exposure pathway
(3) Dose commitment to individuals
(4) Dose commitment to populations
(5) Evaluation of radiological impacts to the public to include a determination of compliance with State and Federal regulations and comparisons with background values
(6) Occupational dose
(7) Radiological impact to biota other than man
(8) Radiological monitoring programs, pre-occupational and operational
(i) Impacts to surface and groundwater, both quality and quantity;
(j) Environmental effects of accidents; and
(k) Evaluation of tailings management alternatives in terms of regulations.

(2) The States are encouraged to examine the need to expand the scope of the assessment into other areas such as:

(a) Ecology;
(b) Environmental effects of site preparation and facility construction on environment and biota;
(c) Environmental effects of use and discharge of chemicals and fuels; and
(d) Economic and social effects.

c. *Inspections*

(1) As a minimum, items which should be inspected or included during the inspection of a uranium mill should adhere to the items evaluated in the in-plant safety review. The principal items recommended for inspection are:

(a) Administration;
(b) Mill circuit, including any additions, deletions, or circuit changes;
(c) Accidents/Incidents;
(d) Part 19 or equivalent requirements of the State;
(e) Action taken on previous findings;
(f) A mill tour to determine compliance with regulations, and license conditions;
(g) Tailings waste management in accordance with regulations and license conditions (see NRC Reg. Guide 3.11.1);
(h) Records;
(i) Respiratory protection in accordance with license conditions or 10 CFR Part 20.
(j) Effluent and environmental monitoring;
(k) Training programs;
(l) Transportation and shipping;
(m) Internal review and audit by management;

(n) Exit interview; and

(o) Final written report documenting the results of the inspection and findings on each item.

(2) In addition, the inspector should perform the following:

(a) Independent surveys and sampling.

(3) Additional guidance is contained in appropriate NRC regulatory and inspection guides. A *complete* inspection should be performed at least once per year.

d. *Operational Data Review*

(1) In addition to the reporting requirements required by the regulations or license conditions, the licensee will submit in writing to the regulatory agency within 60 days after January 1 and July 1 of each year, reports specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and in gaseous effluents during the previous six months of operation. This data shall be reported in a manner that will permit the regulatory agency to confirm the potential annual radiation doses to the public.

(2) All data from the radiological and non-radiological environmental monitoring program will also be submitted for the same time periods and frequency. The data will be reported in a manner that will allow the regulatory agency to conform the dose to receptors.

Instrumentation

36. The State should have available both field and laboratory instrumentation sufficient to ensure the licensee's control of materials and to validate the licensee's measurements.

a. The State will submit its list of instrumentation to the NRC for review. Arrangements should be made for calibrating such equipment.

b. Laboratory-type instrumentation should be available in a State agency or through a commercial service which has the capability for quantitative and qualitative analysis of radionuclides associated with natural uranium and its decay chain, primarily: U-238, Ra-226, Th-320, Pb-210, and Rn-222, in a variety of sample media such as will be encountered from an environmental sampling program.

Analysis and data reduction from laboratory analytical facilities should be available to the licensing and inspection authorities in a timely manner. Normally, the data should be available within 30 days of submittal. State acceptability of quality assurance (QA) programs should also be established for the analytical laboratories.

c. Arrangements should also be completed so that a large number of samples in a variety of sample media resulting from a major accident can be analyzed in a time frame that will allow timely decisions to be made regarding public health and safety.

d. Arrangements should be made to participate in the Environmental Protection Agency quality assurance program for laboratory performance.

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46 FR 24764
Published 5/1/81

Statement of Policy; Programmatic Environmental Impact Statement of the Cleanup of Three Mile Island Unit 2

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Statement of Policy.

SUMMARY: On November 21, 1979, the Nuclear Regulatory Commission directed the staff to prepare a Programmatic Environmental Impact Statement (PEIS) on the decontamination and disposal of radioactive wastes resulting from the March 28, 1979 accident at Three Mile Island, Unit 2. A Statement of Policy and Notice of Intent regarding that decision was published in the Federal Register on November 27, 1979 (page 67738). As stated at that time: "In the Commission's judgment an overall study of the decontamination and disposal process will assist the Commission in carrying out its regulatory responsibilities under the Atomic Energy Act to protect the public health and safety as decontamination progresses. It will also be in keeping with the purposes of the National Environmental Policy Act to engage the public in the Commission's decisionmaking process, and to focus on the environmental issues and alternatives before commitments to specific clean-up choices are made." As directed, the Commission's staff has now completed a final programmatic environmental impact statement on all phases of the cleanup of TMI Unit 2 to meet the foregoing objectives.

Preparation of this final statement has had the benefit of extensive comments from government agencies and the public. Comments on the draft PEIS from the Advisory Panel for the Decontamination of TMI-2 (a panel which the Commission established to provide independent advice from local officials, scientists and individuals in the area) had not been received prior to completion of the PEIS. However, the Commission has now received the Panel's comments and finds that the staff's final PEIS is responsive to those comments. The Commission concludes that this statement satisfies our obligations under the National Environmental Policy Act (NEPA).

Now that the environmental impact statement for TMI-2 has been published, the Commission believes that the licensee should accelerate the pace of the cleanup to complete expeditiously all decontamination activities consistent with ensuring protection of public health and safety and the environment.

As the licensee proposes specific decontamination alternatives for each major cleanup activity, the staff will determine whether these proposals and the associated impacts that are predicted to occur fall within the scope of those already assessed in the PEIS. If they do not, additional reviews will be undertaken in accordance with NEPA. Each proposed cleanup activity will be carefully reviewed to assure that all applicable NRC requirements to protect the health and safety of the public are met. If a specific proposal requires an amendment to the facility operating license, public notice will be provided in accordance with Commission regulations. The staff may act on each major cleanup activity if the activity and associated environmental impacts fall within the scope of those already assessed in the PEIS. The staff will keep the Commission informed of staff actions on each major activity prior to staff approval of the major activity.

If any cleanup activity and associated environmental impacts fall outside the scope of those already assessed in the PEIS, the staff shall complete necessary reviews in accordance with NEPA and NRC requirements, and submit recommendations to the Commission.

Any future proposal for disposition of processed accident-generated water shall be referred to the Commission for approval.

On September 26, 1980, this Commission issued a Statement of Policy on the Pennsylvania Public Utility Commission's order to the licensee to cease and desist from using any operating revenues for cleanup and restoration costs at TMI-2 which are not covered by insurance. We reiterate here our previous position that we will not excuse the licensee from compliance with any order, regulation or other requirement imposed by this Commission to protect public health and safety and the environment.

Furthermore, the cleanup should be carried out in accordance with the criteria in Appendix R of the PEIS as well as in conformance with the existing operating license (DPR-73) and with previously imposed orders.[1] The appendix R criteria specify limits on the doses which may result to offsite individuals from radioactive effluents resulting from cleanup and decontamination activities. Those criteria supplement the existing restrictions on the licensee's cleanup activities.

The Commission expects to receive continuous advice from the TMI-2 Advisory Panel on major activities required to accomplish expeditious and safe cleanup of the TMI-2 facility. This advice will be important to the Commission throughout the cleanup process.

Dated at Washington, D.C., this 27th day of April 1981.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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46 FR 28533

Published 5/27/81

Statement of Policy on Conduct of Licensing Proceedings

I. Background

The Commission has reviewed the docket of the Atomic Safety and Licensing Board Panel (ASLBP) and the current status of proceedings before its individual boards. In a series of public meetings, the Commission has examined at length all major elements in its licensing procedure. It is clear that a number of difficult problems face the agency as it endeavors to meet its responsibilities in the licensing area. This is especially the case with regard to staff reviews and hearings, where requested, for applications for nuclear power plant operating licenses.

Historically, NRC operating licensing reviews have been completed and the license issued by the time the nuclear plant is ready to operate. Now, for the first time the hearings on a number of operating license applications may not be concluded before construction is completed. This situation is a consequence of the Three Mile Island (TMI) accident, which required a reexamination of the entire regulatory structure. After TMI, for over a year and a half, the Commission's attention and resources were focused on plants which were already licensed to operate and on the preparation of an action plan which specified changes necessary for reactors as a result of the accident.

Although staff review of pending license applications was delayed during this period, utilities which had received construction permits continued to build the authorized plants. The staff is now expediting its review of the applications and an unprecedented number of hearings are scheduled in the next 24 months. Many of these proceedings concern applications for operating licenses. If these proceedings are not concluded prior to the completion of construction, the cost of such delay could reach billions of dollars. The Commission will seek to avoid or reduce such delays whenever measures are available that do not compromise the Commission's fundamental commitment to a fair and thorough hearing process.

Therefore, the Commission is issuing this policy statement on the need for the balanced and efficient conduct of all phases of the hearing process. The Commission appreciates the many difficulties faced by its boards in conducting these contentious and complex proceedings. By and large, the boards have performed very well. This document is intended to deal with problems not primarily of the boards' own making. However, the boards will play an important role in resolving such difficulties.

Individual adjudicatory boards are encouraged to expedite the hearing process by using those management methods already contained in Part 2 of the Commission's Rules and Regulations. The Commission wishes to emphasize though that, in expediting the hearings, the board should ensure that the hearings are fair, and produce a record which leads to high quality decisions that adequately protect the public health and safety and the environment.

Virtually all of the procedural devices discussed in this Statement are currently being employed by sitting boards to varying degrees. The Commission's reemphasis of the use of such tools is intended to reduce the time for completing licensing proceedings. The guidelines set forth below are not to be considered all inclusive, but rather are to be considered illustrative of the actions that can be taken by individual boards.

II. General Guidance

The Commission's Rules of Practice provide the board with substantial authority to regulate hearing procedures. In the final analysis, the actions, consistent with applicable rules, which may be taken to conduct an efficient hearing are limited primarily by the good sense, judgment, and managerial skills of a presiding board which is dedicated to seeing that the process moves along at an expeditious pace, consistent with the demands of fairness.

Fairness to all involved in NRC's adjudicatory procedures requires that every participant fulfill the obligations imposed by and in accordance with applicable law and Commission regulations. While a board should endeavor to conduct the proceeding in a manner that takes account of the special circumstances faced by any participant, the fact that a party may have personal or other obligations or possess fewer resources than others to devote to the proceeding does not relieve that party of its hearing obligations. When a participant fails to meet its obligations, a board should consider the imposition of sanctions against the offending party. A spectrum of sanctions from minor to severe is available to the boards to assist in the management of proceedings. For example, the boards could warn the offending party that such conduct will not be tolerated in the future, refuse to consider a filing by the offending party, deny the right to cross-examine or present evidence, dismiss one or more of the party's contentions, impose appropriate sanctions on counsel for a party, or, in severe cases, dismiss the party from the proceeding. In selecting a sanction, boards should consider the relative importance of the unmet obligation, its potential for harm to other parties or the orderly conduct of the proceeding, whether its occurrence is an isolated incident or a part of a pattern or behavior, the importance of the safety or environmental concerns raised by the party, and all of the circumstances. Boards should attempt to tailor sanctions to mitigate the harm caused by the failure of a party to fulfill its obligations and bring about improved future compliance. At an early stage in the proceeding, a board should make all parties aware of the Commission's policies in this regard.

When the NRC staff is responsible for the delay of a proceeding the Chief Administrative Judge, Atomic Safety and Licensing Board Panel, should inform the Executive Director for Operations. The Executive Director for Operations will apprise the Commission in writing of significant delays and provide an explanation. The document will be served on all parties to a proceeding and the board.

III. Specific Guidance

A. Time

The Commission expects licensing boards to set and adhere to reasonable schedules for proceedings. The Boards are advised to satisfy themselves that the 10 CFR 2.711 "good cause" standard for adjusting times fixed by the Board or prescribed by Part 2 has actually been met before granting an extension of time. Requests for an extension of time should generally be in writing and should be received by the Board well before the time specified expires.

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[1] The licensee's authorization under license DPR-73 has been modified through the order issued February 11, 1980, the modification of order issued August 11, 1980, and the amendment of order issued November 14, 1980.

B. Consolidated Intervenors

In accordance with 10 CFR 2.715a, intervenors should be consolidated and a lead intervenor designated who has "substantially the same interest that may be affected by the proceedings and who raise[s] substantially the same questions . . . ." Obviously, no consolidation should be ordered that would prejudice the rights of any intervenor.

However, consonant with that condition, single, lead intervenors should be designated to present evidence, to conduct cross-examination, to submit briefs, and to propose findings of fact, conclusions of law, and argument. Where such consolidation has taken place, those functions should not be performed by other intervenors except upon a showing of prejudice to such other intervenors' interest or upon a showing to the satisfaction of the board that the record would otherwise be incomplete.

C. Negotiation

The parties should be encouraged to negotiate at all times prior to and during the hearing to resolve contentions, settle procedural disputes, and better define issues. Negotiations should be monitored by the board through written reports, prehearing conferences, and telephone conferences, but the boards should not become directly involved in the negotiations themselves.

D. Board Management of Discovery

The purpose of discovery is to expedite hearings by the disclosure of information in the possession of the parties which is relevant to the subject matter involved in the proceeding so that issues may be narrowed, stipulated, or eliminated and so that evidence to be presented at hearing can be stipulated or otherwise limited to that which is relevant. The Commission is concerned that the number of interrogatories served in some cases may place an undue burden on the parties, particularly the NRC staff, and may, as a consequence, delay the start of the hearing without reducing the scope or the length of the hearing.

The Commission believes that the benefits now obtained by the use of interrogatories could generally be obtained by using a smaller number of better focused interrogatories and is considering a proposed rule which would limit the number of interrogatories a party could file, absent a ruling by the Board that a greater number of interrogatories is justified. Pending a Commission decision on the proposed rule, the Boards are reminded that they may limit the number of interrogatories in accordance with the Commission's rules.

Accordingly, the boards should manage and supervise all discovery, including not only the initial discovery directly following admission of contentions, but also any discovery conducted thereafter. The Commission again endorses the policy of voluntary discovery, and encourages the boards, in consultation with the parties, to establish time frames for the completion of both voluntary and involuntary discovery. Each individual board shall determine the method by which it supervises the discovery process. Possible methods include, but are not limited to, written reports from the parties, telephone conference calls, and status report conferences on the record. In virtually all instances, individual boards should schedule an initial conference with the parties to set a general discovery schedule immediately after contentions have been admitted.

E. Settlement Conference

Licensing boards are encouraged to hold settlement conferences with the parties. Such conferences are to serve the purpose of resolving as many contentions as possible by negotiation. The conference is intended to: (a) have the parties identify those contentions no longer considered valid or important by their sponsor as a result of information generated through discovery, so that such contentions can be eliminated from the proceeding; and (b) to have the parties negotiate a resolution, wherever possible, of all or part of any contention still held valid and important. The settlement conference is not intended to replace the prehearing conferences provided by 10 CFR 2.751a and 2.752.

F. Timely Rulings on Prehearing Matters

The licensing boards should issue timely rulings on all matters. In particular, rulings should be issued on crucial or potentially dispositive issues at the earliest practicable juncture in the proceeding. Such rulings may eliminate the need to adjudicate one or more subsidiary issues. Any ruling which would affect the scope of an evidentiary presentation should be rendered well before the presentation in question. Rulings on procedural matters to regulate the course of the hearing should also be rendered early.

If a significant legal or policy question is presented on which Commission guidance is needed, a board should promptly refer or certify the matter to the Atomic Safety and Licensing Appeal Board or the Commission. A board should exercise its best judgment to try to anticipate crucial issues which may require such guidance so that the reference or certification can be made and the response received without holding up the proceeding.

G. Summary Disposition

In exercising its authority to regulate the course of a hearing, the boards should encourage the parties to invoke the summary disposition procedure on issues where there is no genuine issue of material fact so that evidentiary hearing time is not unnecessarily devoted to such issues.

H. Trial Briefs, Prefiled Testimony Outlines and Cross-Examination Plans

All or any combination of these devices should be required at the discretion of the board to expedite the orderly presentation by each party of its case. The Commission believes that cross-examination plans, which are to be submitted to the board alone, would be of benefit in most proceedings. Each board must decide which device or devices would be most fruitful in managing or expediting its proceeding by limiting unnecessary direct oral testimony and cross-examination.

I. Combining Rebuttal and Surrebuttal Testimony

For particular, highly technical issues, boards are encouraged during rebuttal and surrebuttal to put opposing witnesses on the stand at the same time so that each witness will be able to comment immediately on an opposing witness' answer to a question. Appendix A to 10 CFR Part 2 explicitly recognizes that a board may find it helpful to take expert testimony from witnesses on a round-table basis after the receipt in evidence of prepared testimony.

J. Filing of Proposed Findings of Fact and Conclusions of Law

Parties should be expected to file proposed findings of fact and conclusions of law on issues which they have raised. The boards, in their discretion, may refuse to rule on an issue in their initial decision if the party raising the issue has not filed proposed findings of fact and conclusions of law.

K. Initial Decisions

Licensing proceedings vary greatly in the difficulty and complexity of issues to be decided, the number of such issues, and the size of the record compiled. These factors bear on the length of time it will take the boards to issue initial decisions. The Commission expects that decisions not only will continue to be fair and thorough, but also that decisions will issue as soon as practicable after the submission of proposed findings of fact and conclusions of law.

Accordingly, the Chief Administrative Judge of the Atomic Safety and Licensing Board Panel should schedule all board assignments so that after the record has been completed individual Administrative Judges are free to write initial decisions on those applications where construction has been completed. Issuance of such decisions should take precedence over other responsibilities.

IV. Conclusion

This statement on adjudication is in support of the Commission's effort to complete operating license proceedings, conducted in a thorough and fair manner, before the end of construction. As we have noted, that process has not, in the past, extended beyond completion of plant construction. Because of the considerable time that the staff had to spend on developing and carrying out safety improvements at operating reactors during 1979–1980, in the wake of the Three Mile Island accident, this historical situation has been disrupted. To reestablish it on a reliable basis requires changes in the agency review and hearing process, some of which are the subject of this statement.

As a final matter, the Commission observes that in ideal circumstances operating license proceedings should not bear the burden of issues that ours do now. Improvement on this score depends on more complete agency review and decision at the construction permit stage. That in turn depends on a change in industrial practice: submittal of a more nearly complete design by the applicant at the construction permit stage. With this change operating license reviews and public proceedings could be limited essentially to whether the facility in question was constructed in accordance with the detailed design approved for construction and whether significant developments after the date of the construction permit required modifications in the plant.

Dated at Washington, D.C., this 20th day of May 1981.

For the Commission.

Samuel J. Chilk,

Secretary of the Commission.

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46 FR 36969

Published 7/16/81

Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement; Statement of Policy

AGENCY: Nuclear Regulatory Commission.

ACTION: Revision of Criterion 29f.

SUMMARY: In a Federal Register document published on January 23, 1981 (46 FR 7540–7546, FR Doc. 81–2428), the NRC published Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement. As published at 46 FR 7544, Col. 1, Criterion 29f. which states "ban on major construction prior to completion of the aforementioned stipulations," is inaccurate. This document corrects the text of Criterion 29 by revising paragraph f. to read as follows:

"f. A ban on major construction prior to completin of the written environmental analysis stipulated in Criterion 31."

FOR FURTHER INFORMATION CONTACT: John F. Kendig, Office of State Programs, Nuclear Regulatory Commission, Washington, D.C. 20555, (301) 492–9891.

Dated at Washington, D.C. this 10th day of July 1981.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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46 FR 47906

Published 9/30/81

Statement of Policy on Issuance of Uncontested Fuel Loading and Low Power Testing Operating Licenses

AGENCY: Nuclear Regulatory Commission.

ACTION: Statement of Policy.

SUMMARY: In October 1979 the Commission suspended its policy that permitted the issuance of nuclear power reactor construction permits and operating licenses by the staff in uncontested cases and directed that no such permits or licenses could be issued except upon prior review by the Commission itself. 44 FR 58559 (October 10, 1979). In the past months, the Commission has revised those procedures in a way designed to improve the licensing process. 46 FR 28627 (May 28, 1981). In this issue of the **Federal Register**, the Commission is publishing final rules which retain to the Commission itself the decision of whether or not an applicant will be granted authority for commercial operation, i.e., full power operation. These final rules will permit fuel loading and low power (up to 5 percent of rated power) testing to be authorized by the Director of Nuclear Reactor Regulation after a favorable decision by a Licensing Board in a contested case. This Statement announces the Commission's intention that in future uncontested cases full power operation will be authorized by the Commission. However, in such cases, the Director shall authorize fuel loading and low power testing without the need to obtain prior Commission approval.

Dated at Washington, D.C. this 24th day of September, 1981.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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46 FR 51100

Published 10/16/81

Policy Statement on Low-Level Waste Volume Reduction

AGENCY: Nuclear Regulatory Commission.

ACTION: Policy statement on low-level waste volume reduction.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has established a policy regarding the volume reduction of low-level radioactive waste. The policy statement addresses: (1) The need for volume reduction policy; and (2) the need for waste generators to minimize the quantity of waste produced. The policy also states that NRC will take expeditious action on requests for licensing of volume reduction systems. (A copy of this notice is bing sent to all licensees and state authorities to advise them of this policy.)

EFFECTIVE DATE: October 16, 1981.

FOR FURTHER INFORMATION CONTACT: Robert E. Browning, Deputy Director, Division of Waste Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555; Phone 301/427-4200.

SUPPLEMENTARY INFORMATION:

Policy Statement

The Commission has established the following policy:

The Commission hereby adopts a policy calling on all generators of low-level radioactive waste to reduce the volume of waste for disposal; licensees are encouraged to establish programs commensurate with good volume reduction practices.

The Nuclear Regulatory Commission (NRC) considers it desirable that licensees reduce the volume of low-level radioactive waste generated and shipped to commercial waste disposal sites. Such action would:

1. Extend the operational lifetime of the existing commercial low-level disposal sites;
2. Alleviate concern for adequate storage capacity if there are delays in establishing additional regional sites;
3. Reduce the number of waste shipments.

The Commission acknowledges the active role taken by some nuclear industry groups to encourage volume reduction practices among their membership. The increased awareness of the industry is reflected in stepped-up efforts to reduce the volumes of waste generated and by applications to implement waste processing systems by a growing number of licensees. The Commission believes that a positive statement of policy will add greater impetus and encouragement to the industry efforts already underway.

The Commission is encouraging licensees to adopt procedures that will reduce the volume of waste being transferred to disposal facilities. NRC believes it is in the best interest of licensees and the public that licensees extensively explore means by which waste volume may be reduced. The NRC views volume reduction activities as a two-step system. The first, volume minimization, is capable of immediate implementation, since it requires only a strict system of administrative controls on the part of licensee management to accomplish. The costs for an administrative controls program should be small, and these costs largely should be offset by reductions in shipping and disposal costs. The second step, if needed, would be installation of advanced equipment to achieve even greater reduction in volume than is possible through the use of administrative controls.

There are a number of means by which licensees may reduce volume through application of strict administrative controls. Some of these are: (1) Planning of laboratory and process activities prior to the actual operations; (2) provision of management control over the generation of waste to assure that all operations and plant equipment usage are conducted so as to minimize leakage, spills, and volume of waste generated; (3) improved segregation of radioactive and non-radioactive materials activities; and (4) provision of training programs to assure that personnel are thoroughly knowledgeable with laboratory and plant equipment and maintenance so as to minimize conditions which result in increased waste generation.

Apart from efforts to reduce waste volumes by administrative controls, licensees may benefit further by applying advanced volume reduction equipment to their processes.

A number of volume reduction techniques are in varying stages of development. These include, but are not limited to: (1) Incinerators; (2) evaporator-crystallizers; (3) fluidized bed dryers; (4) thin-film evaporators; (5) extruder evaporators; and (6) compactors. Waste compactors are in general use at many nuclear facilities. Extruder evaporators are being installed in some power plants, while several utilities are looking into incineration as a volume reduction process.

Treatment or disposal of licensed material by incineration requires Commission approval under 10 CFR 20.305. Other modifications required to install volume reduction equipment at reactor plants can be accomplished without prior Commission approval under 10 CFR 50.59, unless the proposed modification involves a change in the technical specifications incorporated in the license or an unreviewed safety question. Non-reactor licensees who wish to apply volume reduction equipment to their wastes should contact the appropriate NRC licensing staff for guidance regarding licensing requirements.

The NRC staff is available to consult with licensees regarding volume reduction practices. NRC staff will cooperate with licensees in assessing the state-of-the-art of methods for achievement of volume reduction, and will take expeditious action on requests for licensing volume reduction systems.

Dated at Washington, D.C., this 12th day of October 1981.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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46 FR 59341

Published 12/4/81

Evaluation of Agreement State Radiation Control Programs; General Statement of Policy

AGENCY: Nuclear Regulatory Commission.

ACTION: Final general statement of policy.

SUMMARY: The Nuclear Regulatory Commission is adopting as a general statement of policy the recently revised "Guidelines for NRC Review of Agreement State Radiation Control Programs." This statement of policy is being issued to inform the States and the public of the criteria and guidelines which the Commission intends to use in its periodic evaluations of Agreement State Programs.

EFFECTIVE DATE: This general statement of policy is effective on December 4, 1981.

FOR FURTHER INFORMATION CONTACT: Donald A. Nussbaumer, Assistant Director for State Agreements Program, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Telephone: 301-492-7767.

SUPPLEMENTARY INFORMATION: On October 3, 1980, the NRC published in the Federal Register as a proposed General Statement of Policy its "Guide for Evaluation of Agreement State Radiation Control Programs." (45 FR 65726–65734). Interested persons were invited to submit written comments and suggestions on the proposed policy statement during the comment period which expired on December 22, 1980 (45 FR 80937, December 8, 1980). Based on the comments received and the Commission's own evaluation, a number of changes have been made to the policy statement.

This document is organized in much the same manner as the former "Guide." It contains six major sections, each of which deals with a separate program element. These sections are: Legislation and Regulations, Organization, Management and Administration, Personnel, Licensing, and Compliance. As in the former "Guide" each program element contains "Indicators" which address specific functions within the program element. A number of recommended "Guidelines" are listed under each "Indicator." The "Guidelines" replace the former "Guides for Acceptable Practice."

The indicator "Legal Authority" has been taken out of the Organization section and combined with Regulations to form a new section, Legislation and Regulations. The underlying authority granted the radiation control program in State legislation together with implementing regulations form the foundation of any regulatory program and are essential to the effectiveness of that program. A new indicator "Status of Regulations" has replaced "Compatibility." The guidelines under the indicator "Status of Regulations" indicate that certain State regulations must be essentially identical to NRC regulations and that other regulations must have a high degree of uniformity with NRC regulations. This is basically what is meant by compatibility as it is applied to regulations.

With regard to the Organization section, the only significant change was the moving of the indicator Legal Authority, to a new section.

The section on Management and Administration has been revised in a number of areas. The guidelines under Budget have been revised to list the specific program areas we feel require budgetary support. A specific dollar range, however, has been deleted. With the growing complexity of radiation control programs, (e.g., the additional requirement on States licensing uranium mills), inflation, and other considerations, it is becoming increasingly difficult to establish specific funding levels which could be useful in comparing State programs. A number of points should be stressed: (1) There have been a number of occasions in the past where States have not met the NRC's recommended guidelines and yet the overall program has functioned satisfactorily; (2) The States utilize a variety of accounting techniques and it has been difficult to develop a guideline that would be generally applicable to all States; (3) Past experience has shown that there is not a strong correlation between budget problems and problems in other program areas. For example, in most States, salaries constitute a major part of the radiation control program budget. There have been a number of cases where a State's overall budget was within the recommended guideline but yet the salaries were too low to recruit and retain adequate staff. Conversely, States with more than adequate salaries have had an overall budget below the recommended guideline. Our conclusion is that the diversity of State programs and the variety of accounting techniques employed by the State makes the use of specific budget level guidelines of little value. Other editorial changes have been made to the Management and Administration section.

The indicator "Duties" has been changed to "Staff Supervision" which we feel more accurately expresses the subject of the guidelines. We have eliminated "salaries" as a separate indicator, and have placed it under a new indicator "Staff Continuity." Salary levels are important only from the standpoint of being able to recruit and retain staff. The indicator "Recruiting" has been eliminated. The guideline relating to job descriptions has been moved to "Qualifications." The guideline regarding vacancy notification procedures has been eliminated since, as pointed out by one commenter, State recruitment practices vary according to State personnel office procedures. Based on our experience, there does not appear to be any reason for recommending one recruitment practice over another.

Only minor changes have been made to the Licensing section. Under "Licensing Procedures" the guideline pertaining to the preliminary review of applications within 30 days of receipt has been eliminated. The time needed to review an initial license application is a purely administrative matter. An artificial time limit serves no useful purpose. It is the quality of the licensing action that has a bearing on public health and safety. The timely review of licensee renewal applications may, however, be important. The recommended guideline pertaining to the issuance of license expiration notices to licensees 30–60 days prior to expiration has also been eliminated. License renewal is the responsibility of the licensee. The issuance of expiration notices by the State is a purely administrative matter.

No significant changes have been made to the Compliance section.

A number of changes have been made to the Categories assigned to various indicators. Category III has been eliminated. All guidelines previously included in Category III indicators were considered to be more appropriately identified as Category II. A separate Category III is no longer needed.

The "Guidelines for NRC Review of Agreement State Radiation Control Programs" will be used by the NRC staff during its onsite reviews of Agreement State programs. Such reviews are conducted at approximately 18 month intervals or less if deemed necessary. As a result of the review of a State program, the NRC determines that the Agreement State's program is either:

(1) Adequate to protect the public health and safety; or

(2) Inadequate to protect the public health and safety.

A program may be adequate to protect the public health and safety although in need of improvement in specified areas. In some cases, the NRC may be unable to make a finding at the time of the review because of unresolved items or inadequate information necessitating a follow-up review. In such cases, NRC follows up on these matters by correspondence, follow-up onsite reviews or at the time of the next regular scheduled review. No significant items will be left unresolved over a prolonged period.

A determination is also made that the program is either:

(1) Compatible with the NRC Regulatory program in areas related to the public health and safety; or

(2) Incompatible with the NRC Regulatory program; or

(3) NRC is unable to make a finding at the time of the review because of unresolved items or inadequate information.

A dispositive finding of adequacy and compatibility is made at the time the staff submits a consolidated assessment to the Commission in an annual report on all Agreement States.

In making a finding of adequacy, the NRC considers areas of the State program which are critical to its primary function, i.e., protection of the public health and safety. For example, a State that does not have qualified personnel, fails to take adequate licensing actions or has no inspection program, would not be considered to have a program adequate to protect the public health and safety. Basic radiation protection standards, such as exposure limits, also directly affect the States' ability to protect public health and safety. The NRC feels that it is important to strive for a high degree of uniformity in technical definitions and terminology, particularly as related to units of measurement and radiation dose. Maximum permissible doses and levels of radiation and concentrations of radioactivity in unrestricted areas as specified in 10 CFR Part 20 are considered to be important enough to require States to be essentially equivalent in this area in order to protect public health and safety. Certain administrative procedures, such as those involving the licensing of products containing radioactive material intended for interstate commerce, also require a high degree of uniformity. If no serious performance problems are found in an Agreement State program and if its standards and program procedures are compatible with the NRC program, a finding of adequacy and compatibility is made. In a case where a State has not formally updated radiation standards in important areas, but other areas of the program are not deficient, a State could be found to be adequate but not compatible with the NRC program. It is also possible that a State program could have up-to-date regulations, all proper procedures, and adequate staff, but still fail to perform the necessary work. In this case, a program could be found to be inadequate to protect the public health and safety, yet compatible with the Commission's program. In the worst case, a program can be found to be both inadequate and incompatible with the NRC program.

Guidelines for NRC Review of Agreement State Radiation Control Programs

1981.

Prepared by Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Introduction

Section 274 of the Atomic Energy Act was enacted by the Congress in 1959 to recognize the interests of the States in atomic energy, to clarify the respective responsibilities of State and Federal Governments, and to provide a mechanism for States to enter into formal agreements with the Atomic Energy Commission (AEC), and later the Nuclear Regulatory Commission (NRC), under which the States assume regulatory authority over byproduct, source, and small quantities of special nuclear materials, collectively referred to as agreement materials. The mechanism by which the NRC discontinues and the States assume regulatory authority over agreement materials is an agreement between the Governor of a State and the Commission. Before entering into an Agreement, the Governor is required to certify that the State has a regulatory program that is adequate to protect the public health and safety. In addition, the Commission must perform an independent evaluation and make a finding that the State's program is adequate from the health and safety standpoint and compatible with the Commission's regulator program.

Current Guidelines

In 1980, the NRC staff initiated a major revision of the guide for review of Agreement State programs (two earlier revisions reflected primarily minor and editorial changes). This was necessitated by changes in NRC licensing and compliance policy, the Uranium Mill Tailings Radiation Control Act of 1978 and inflationary impacts on budgeting. In view of increased public interest in radiation control matters and the Agreement State program, the Commission has published these Guidelines, which constitute Commission policy in the form of a document entitled "Guidelines for NRC Review of Agreement State Radiation Control Programs." This document provides guidance for evaluation of operating Agreement State programs based on 20 years of combined AEC–NRC experience in administering the Agreement State program. The document will be used by the NRC in its continuing program of evaluating Agreement State programs.

The "Guidelines" contain six sections, each dealing with one of the essential elements of a radiation control program (RCP) which are: Legislation and Regulations, Organization, Management and Administration, Personnel, Licensing, and Compliance. Each section contains (a) a summary of the general significance of the program elements, (b) indicators which address specific functions within the program element, (c) categories which denote the relative importance of each indicator, and (d) guidelines which delineate specific objectives or operational goals.

Categories of Indicators

The indicators listed in this document cover a wide range of program functions, both technical and administrative. It should be recognized that the indicators, and the guidelines under each indicator, are not of equal importance in terms of the fundamental goal of a radiation control program, i.e. protecting the public health and safety. Therefore, the indicators are categorized in terms of their importance to the fundamental goal of protecting the public health and safety. Two categories are used.

Category I—Direct Bearing on Health and Safety. Category I Indicators are:

- Legal Authority.
- Status of Regulations.
- Quality of Emergency Planning.
- Technical Quality of Licensing Actions.
- Adequacy of Product Evaluations.
- Status of Inspection Program.
- Inspection Frequency.
- Inspectors' Performance and Capability.
- Response to Actual and Alleged Incidents.
- Enforcement Procedures.

These indicators address program functions which directly relate to the State's ability to protect the public health and safety. If significant problems exist in several Category I indicator areas, then the need for improvements may be critical. Legislation and regulations together form the foundation for the entire program, establishing the framework for the licensing and compliance programs. The technical review of license applications is the initial step in the regulatory process. The evaluation of applicant qualifications, facilities, equipment, and procedures by the regulatory agency is essential to assure protection of the public from radiation hazards associated with the proposed activities. Assuring that licensees fulfill the commitments made in their applications and that they observe the requirements set forth in the regulations is the objective of the compliance program. The essential elements of an adequate compliance program are (1) the conduct of onsite inspections of licensee activities, (2) the performance of these inspections by competent staff, and (3) the taking of appropriate enforcement actions. Another very important factor is the ability to plan for, respond effectively to, and investigate radiation incidents.

Category II—Essential Technical and Administrative Support. Category II Indicators are:

- Updating of Regulations.
- Location of Radiation Control Program Within State Organization.
- Internal Organization of Radiation Control Program.
- Legal Assistance.
- Technical Advisory Committees.
- Budget.
- Laboratory Support.
- Administrative Procedures.
- Management.
- Office Equipment and Support Services.
- Public Information.
- Qualifications of Technical Staff.
- Staffing Level.
- Staff Supervision.
- Training.
- Staff Continuity.
- Licensing Procedures.
- Inspection Procedures.
- Inspection Reports.
- Independent Measurements.

These indicators address program functions which provide essential technical and administrative support for the primary program functions. Good performance in meeting the guidelines for these indicators is essential in order to avoid the development of problems in one or more of the principal program areas, i.e. those that fall under Category I indicators. Category II indicators frequently can be used to identify underlying problems that are causing, or contributing to, difficulties in Category I indicators.

It is the NRC's intention to use these

categories in the following manner. In reporting findings to State management, the NRC will indicate the category of each comment made. If no significant Category I comments are provided, this will indicate that the program is adequate to protect the public health and safety. If at least one significant Category I comment is provided, the State will be notified that the program deficiency may seriously affect the State's ability to protect the public health and safety and should be addressed on a priority basis. When more than one significant Category I comment is provided, the State will be notified that the need of improvement in the particular program areas is critical. The NRC would request an immediate response, and perform a follow-up review of the program within six months. If the State program has not improved or if additional deficiencies have developed, the NRC may institute proceedings to suspend or revoke all or part of the Agreement. Category II comments would concern functions and activities which support the State program and therefore would not be critical to the State's ability to protect the public. The State will be asked to respond to these comments and the State's actions will be evaluated during the next regular program review.

It should be recognized that the categorization pertains to the significance of the overall indicator and not to each of the guidelines within that indicator. For example, "Technical Quality of Licensing Actions" is a Category I indicator. The review of license applications for the purpose of evaluating the applicant's qualifications, facilities, equipment, and procedures is essential to assuring that the public health and safety is being protected. One of the guidelines under this indicator concerns prelicensing visits. The need for such visits depends on the nature of the specific case and is a matter of judgment on the part of the licensing staff. The success of a State program in meeting the overall objective of the indicator does not depend on literal adherence to each recommended guideline.

As a matter of policy, the Commission supports the development of more specific objective measures of Agreement State regulatory performance. The difficulties of implementing this policy are also recognized (e.g., lack of adequate data, lack of cause and effect relationships between State radiation control programs and radiation exposure data, cost of collecting data). Nonetheless, the Commission believes there is potential merit in using objective rather than subjective measures where appropriate. NRC will work toward establishing more quantitative measures on a State-by-State basis to improve the quality and consistency of NRC reviews. Recognition will be given to State unique factors, the difficulty in comparing one State to another, and the availability and cost of data collection. NRC solicits State assistance and suggestions in identifying objective performance indicators.

General NRC Policy

The "Guidelines for NRC Review of Agreement State Radiation Control Programs" will be used by the NRC staff during its onsite reviews of Agreement State programs. Such reviews are conducted at approximately 18 month intervals, or less if deemed necessary. As a result of the review of a State program, the NRC determines that the Agreement State's program is either:

(1) Adequate to protect the public health and safety; or

(2) Inadequate to protect the public health and safety.

A program may be adequate to protect the public health and safety although in need of improvement in specified areas. In some case, the NRC may be unable to make a finding at the time of the review because of unresolved items or inadequate information necessitating a follow-up review. In such cases, NRC follows up on these matters by correspondence, follow-up onsite reviews or at the time of the next regularly scheduled review. No significant items will be left unresolved over a prolonged period.

A determination is also made that the program is either:

(1) Compatible with the NRC Regulatory program in areas related to the public health and safety; or

(2) Incompatible with the NRC Regulatory program; or NRC is unable to make a finding at the time of the review because of unresolved items or inadequate information. A dispositive finding is made at the time the staff submits a consolidated assessment to the Commission in an annual report on all Agreement States.

In making a finding of adequacy, the NRC considers areas of the State program which are critical to its primary function, i.e., protection of the public health and safety. For example, a State that does not have qualified personnel, fails to take licensing actions or has no inspection program, would not be considered to have a program adequate to protect the public health and safety. Basic radiation protection standards, such as exposure limits, also directly affect the States' ability to protect public health and safety. The NRC feels that it is important to strive for a high degree of uniformity in technical definitions and terminology, particularly as related to units of measurement and radiation dose. Maximum permissible doses and levels of radiation and concentrations of radioactivity in unrestricted areas as specified in 10 CFR Part 20 are considered to be important enough to require States to be essentially equivalent in this area in order to protect public health and safety. Certain administrative procedures, such as those involving the licensing of products containing radioactive material intended for interstate commerce, also require a high degree of uniformity. If no serious performance problems are found in an Agreement State program and if its standards and program procedures are compatible with the NRC program, a finding of adequacy and compatibility is made. In a case where a State has not formally updated radiation standards in important areas, but other areas of the program are not deficient, a State could be found to be adequate but not compatible with the NRC program. It is also possible that a State program could have up-to-date regulations, all proper procedures, and adequate staff, but still fail to perform the necessary work. In this case, a program could be found to be inadequate to protect the public health and safety, yet compatible with the Commission's program. In the worst case, a program can be found to be both inadequate and incompatible with the NRC program.

Guidelines—Legislation and Regulations

The effectiveness of any State radiation control program (RCP) is dependent upon the underlying authority granted the RCP in State legislation, and implemented in the State regulations. Regulations provide the foundation upon which licensing, inspection, and enforcement decisions are made. Regulations also provide the standards and rules within which the regulated must operate. Periodic revisions are necessary to reflect changing technology, improved knowledge, current recommendations by technical advisory groups, and consistency with NRC regulations. Procedures for providing input to the NRC on proposed changes to NRC regulations are necessary to assure consideration of the State's interests and requirements. The public and, in particular, affected classes of licensees should be granted the opportunity and time to comment on rule changes.

Indicators	Category	Guidelines
Legal Authority	I	Clear statutory authority should exist, designating a State radiation control agency and providing for promulgation of regulations, licensing, inspection and enforcement. States regulating uranium or thorium recovery and associated wastes pursuant to the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) must have statutes enacted to establish clear authority for the State to carry out the requirements of UMTRCA. Where regulatory responsibilities are divided between State agencies, clear understandings should exist as to division of responsibilities and requirements for coordination.
Status of Regulations.	I	The State must have regulations essentially identical to 10 CFR Part 19, Part 20 (radiation dose standards and effluent limits), and those required by UMTRCA, as implemented by Part 40. The State should adopt other regulations to maintain a high degree of uniformity with NRC regulations.
Updating of Regulations.	II	The RCP has established procedures for effecting appropriate amendments to State regulations in a timely manner, normally within 3 years of adoption by NRC. For those regulations deemed a matter of compatibility by NRC, State regulations should be amended as soon as practicable but no later than 3 years. Opportunity should be provided for the public to comment on proposed regulation changes. (Required by UMTRCA for uranium mill regulation.) Pursuant to the terms of the Agreement, opportunity should be provided for the NRC to comment on draft changes in State regulations.

Organization

The effectiveness of any State RCP may be dependent upon its location within the overall State organizational structure. The RCP should be in a position to compete effectively with other health and safety programs for budget and staff. Program management must have access to individuals or groups which establish health and safety program priorities. The RCP should be organized to achieve a high degree of efficiency in supervision, work functions, and communications.

Indicators	Category	Guidelines
Location of Radiation Control Program Within State Organization	II	The RCP should be located in a State organization parallel with comparable health and safety programs. The Program Director should have access to appropriate levels of State management.
Internal Organization of Radiation Control Program.	II	The RCP should be organized with the view toward achieving an acceptable degree of staff efficiency, place appropriate emphasis on major program functions, and provide specific lines of supervision from program management for the execution of program policy. Where regional offices are utilized, the lines of communication and administrative control between the regions and the central office (Program Director) should be clearly drawn to provide uniformity in inspection policy, procedures and supervision.
Legal Assistance	II	Legal staff should be assigned to assist the RCP or procedures should exist to obtain legal assistance expeditiously. Legal staff should be knowledgeable regarding the RCP program, statutes, and regulations.
Technical Advisory Committees.	II	Technical Committees, Federal Agencies, and other resource organizations should be used to extend staff capabilities for unique or technically complex problems. A State Medical Advisory Committee should be used to provide broad guidance on the uses of radioactive drugs in or on humans. The Committee should represent a wide spectrum of medical disciplines. The Committee should advise the RCP on policy matters and regulations related to use of radioisotopes in or on humans. Procedures should be developed to avoid conflict of interest, even though Committees are advisory. This does not mean that representatives of the regulated community should not serve on advisory committees or not be used as consultants.

Management and Administration

State RCP management must be able to meet program goals through strong, direct leadership at all levels of supervision. Administrative procedures are necessary to assure uniform and appropriate treatment of all regulated parties. Procedures for receiving information on radiological incidents, emergency response, and providing information to the public are necessary. Procedures to provide feedback to supervision on status and activities of the RCP are necessary. Adequate facilities, equipment and support services are needed for optimum utilization of personnel resources.

Laboratory support services should be administered by the RCP or be readily available through established administrative procedures.

In order to meet program goals, a State RCP must have adequate budgetary support. The total RCP budget must provide adequate funds for salaries, travel costs associated with the compliance program, laboratory and survey instrumentation and other equipment, and other administrative costs. The program budget must reflect annual changes in the number and complexity of applications and licenses, and the increase in costs due to normal inflation.

Indicators	Category	Guidelines
Quality of Emergency Planning.	I	The State RCP should have a written plan for response to such incidents as spills, overexposures, transportation accidents, fire or explosion, theft, etc. The Plan should define the responsibilities and actions to be taken by State agencies. The Plan should be specific as to persons responsible for initiating response actions, conducting operations and cleanup. Emergency communication procedures should be adequately established with appropriate local, county and State agencies. Plans should be distributed to appropriate persons and agencies. NRC should be provided the opportunity to comment on the Plan while in draft form. The plan should be reviewed annually by Program staff for adequacy and to determine that content is current. Periodic drills should be performed to test the plan.
Budget	II	Operating funds should be sufficient to support program needs such as: staff travel necessary to the conduct of an effective compliance program, including routine inspections, followup or special inspections (including pre-licensing visits) and responses to incidents and other emergencies, instrumentation and other equipment to support the RCP, administrative costs in operating the program including rental charges, printing costs, laboratory services, computer and/or word processing support, preparation of correspondence, office equipment, hearing costs, etc. as appropriate. Principal operating funds should be from sources which provide continuity and reliability, i.e., general tax, license fees, etc. Supplemental funds may be obtained through contracts, cash grants, etc.
Laboratory Support	II	The RCP should have the capability in-house, or readily available through established procedures, laboratory support to conduct bioassays, analyze environmental samples, analyze samples collected by inspectors, etc. on a priority established by the RCP.
Administrative Procedures.	II	The RCP should establish written internal procedures to assure that staff performs its duties as required and to provide a high degree of uniformity and continuity in regulatory practices. These procedures should address internal processing of license applications, inspection policies and procedures, decommissioning, and other functions required of the program.
Management	II	Program management should receive periodic reports from the staff on the status of regulatory actions (backlogs, problem cases, inquiries, regulation revisions). RCP management should periodically assess workload trends, resources and changes in legislative and regulatory responsibilities to forecast needs for increased staff, equipment, services and fundings. Program management should perform periodic reviews of selected license cases handled by each reviewer and document the results. Complex licenses (major manufacturers, large scope—Type A Broad, potential for significant releases to environment) should receive second party review (supervisory) committee, consultant). Supervisory review of inspections, reports and enforcement actions should also be performed.
Office Equipment and Support Services.	II	The RCP should have adequate secretarial and clerical support. Automatic typing and Automatic Data Processing

Indicators	Category	Guidelines
		and retrieval capability should be available to larger (>300-400 licenses) programs. Similar services should be available to regional offices, if utilized.
Public Information	II	Inspection and licensing files should be available to the public consistent with State administrative procedures. Opportunity for public hearings should be provided in accordance with UMTRCA and applicable State administrative procedure laws.

Personnel

The RCP must be staffed with a sufficient number of trained personnel. The evaluation of license applications and the conduct of inspections require staff with in-depth training and experience in radiation protection and related subjects. The staff must be adequate in number to assure licensing, inspection, and enforcement actions of appropriate quality to assure protection of the public health and safety. Periodic training of existing staff is necessary to maintain capabilities in a rapidly changing technological environment. Program management personnel must be qualified to exercise adequate supervision in all aspects of a State radiation control program.

Indicators	Category	Guide for acceptable practice
Qualifications of Technical Staff.	II	Professional staff should have bachelor's degree or equivalent training in the physical and/or life sciences. Additional training and experience in radiation protection for senior personnel should be commensurate with the type of licenses issued and inspected by the State. Written job descriptions should be prepared so that professional qualifications needed to fill vacancies can be readily identified.
Staffing Level	II	Staffing level should be approximately 1-1.5 person-year per 100 licenses in effect. RCP must not have less than two professionals available with training and experience to operate RCP in a way which provides continuous coverage and continuity. For States regulating uranium mills and mill tailings, current indications are that 2-2.75 professional person-years' of effort, including consultants, are needed to process a new mill license (including insitu mills) or major renewal, to meet requirements of Uranium Mill Tailings Radiation Control Act of 1978. This effort must include expertise in radiological matters, hydrology, geology, and structural engineering.[1]
Staff Supervision	II	Supervisory personnel should be adequate to provide guidance and review the work of senior and junior personnel. Senior personnel should review applications and inspect licenses independently, monitor work of junior personnel, and participate in the establishment of policy. Junior personnel should be initially limited to reviewing license applications and inspecting small programs under close supervision.
Training	II	Senior personnel should have attended NRC core courses in licensing orientation, inspection procedures, medical practices and industrial radiography practices. (For mill States, mill training should also be included.) The RCP should have a program to utilize specific short courses and workshops to maintain appropriate level of staff technical competence in areas of changing technology.
Staff Continuity	II	Staff turnover should be minimized by combinations of opportunities for training, promotions, and competitive salaries. Salary levels should be adequate to recruit and retain persons of appropriate professional qualifications. Salaries should be comparable to similar employment in the geographical area. The RCP organization structure should be such that staff turnover is minimized and program continuity maintained through opportunities for promotion. Promotion opportunities should exist from junior level to senior level or supervisory positions. There also should be opportunity for periodic salary increases compatible with experience and responsibility.

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[1] Additional guidance is provided in the Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement.

Licensing

It is necessary in licensing by product, source, and special nuclear materials that the State regulatory agency obtain information about the proposed use of nuclear materials, facilities and equipment, training and experience of personnel, and operating procedures appropriate for determining that the applicant can operate safely and in compliance with the regulations and license conditions. An acceptable licensing program includes: preparation and use of internal licensing guides and policy memoranda to assure technical quality in the licensing program (when appropriate, such as in small programs, NRC Guides may be used); prelicensing inspection of complex facilities; and the implementation of administrative procedures to assure documentation and maintenance of adequate files and records.

Indicators	Category	Guidelines
Technical Quality of Licensing Actions	I	The RCP should assure that essential elements of applications have been submitted to the agency, and which meet current regulatory guidance for describing the isotopes and quantities to be used, qualifications of persons who will use material, facilities and equipment, and operating and emergency procedures sufficient to establish the basis for licensing actions. Prelicensing visits should be made for complex and major licensing actions. Licenses should be clear, complete, and accurate as to isotopes, forms, quantities, authorized uses, and permissive or restrictive conditions. The RCP should have procedures for reviewing licenses prior to renewal to assure that supporting information in the file reflects the current scope of the licensed program.
Adequacy of Product Evaluations	I	RCP evaluations of manufacturer's or distributor's data on sealed sources and devices outlined in NRC, State, or appropriate ANSI Guides, should be sufficient to assure integrity and safety for users. The RCP should review manufacturer's information in labels and brochures relating to radiation health and safety, assay, and calibration procedures for adequacy. Approval documents for sealed source or device designs should be clear, complete and accurate as to isotopes, forms, quantities, uses, drawing identifications, and permissive or restrictive conditions.
Licensing Procedures.	II	The RCP should have internal licensing guides, checklist, and policy memoranda consistent with current NRC practice. License applicants (including applicants for renewals) should be furnished copies of applicable guides and regulatory positions. The present compliance status of licensees should be considered in licensing actions. Under the NRC Exchange-of-Information program, evaluation sheets, service licenses, and licenses authorizing distribution to general licensees and persons exempt from licensing should be submitted to NRC on a timely basis. Standard license conditions comparable with current NRC standard license conditions should be used to expedite and provide uniformity in the licensing process. Files should be maintained in an orderly fashion to allow fast, accurate retrieval of information and documentation of discussions and visits.

Compliance

Periodic inspections of licensed operations are essential to assure that activities are being conducted in compliance with regulatory requirements and consistent with good safety practices. The frequency of inspections depends on the amount and the kind of material, the type of operation licensed, and the results of previous inspections. The capability of maintaining and retrieving statistical data on the status of the compliance program is necessary. The regulatory agency must have the necessary legal authority for prompt enforcement of its regulations. This may include, as appropriate, administrative remedies, orders requiring corrective action, suspension or revocation of licenses, the impounding of materials, and the imposing of civil or criminal penalties.

Indicators	Category	Guidelines
Status of inspection Program.	I	State RCP should maintain an inspection program adequate to assess licensee compliance with State regulations and license conditions. The RCP should maintain statistics which are adequate to permit Program Management to assess the status of the inspection program on a periodic basis. Information showing the number of inspections conducted, the number overdue, the length of time overdue and the priority categories should be readily available. At least semiannual inspection planning for number of inspections to be performed, assignments to senior vs junior staff, assignments to regions, identification of special needs and periodic status reports.

Indicators	Category	Guidelines
Inspection Frequency.	I	The RCP should establish an inspection priority system. The specific frequency of inspections should be based upon the potential hazards of licensed operations, e.g., major processors, broad licensees, and industrial radiographers should be inspected approximately annually—smaller or less hazardous operations may be inspected less frequently. The minimum inspection frequency should be consistent with the NRC system.
Inspectors' Performance and Capability.	I	Inspectors should be competent to evaluate health and safety problems and to determine compliance with State regulations. Inspectors must demonstrate to supervision an understanding of regulations, inspection guides, and policies prior to independently conducting inspections. The compliance supervisor (may be RCP manager) should conduct annual field evaluations of each inspector to assess performance and assure application of appropriate and consistent policies and guides.
Response to Actual and Alleged Incidents.	I	Inquiries should be promptly made to evaluate the need for onsite investigations. Onsite investigations should be promptly made of incidents requiring reporting to the Agency in less than 30 days. (10 CFR 20.403 types.) For those incidents not requiring reporting to the Agency in less than 30 days, investigations should be made during the next scheduled inspection. Onsite investigations should be promptly made of non-reportable incidents which may be of significant public interest and concern, e.g., transportation accidents. Investigations should include indepth reviews of circumstances and should be completed on a high priority basis. When appropriate, investigations should include reenactments and time-study measurements (normally within a few days). Investigation (or inspection) results should be documented and enforcement action taken when appropriate. State licensees and the NRC should be notified of pertinent information about any incident which could be relevant to other licensed operations (e.g., equipment failure, improper operating procedures). Information on incidents involving failure of equipment should be provided to the agency responsible for evaluation of the device for an assessment of possible generic design deficiency. The RCP should have access to medical consultants when needed to diagnose or treat radiation injuries. The RCP should use other techincal consultants for special problems when needed.
Enforcement Procedures.	I	Enforcement Procedures should be sufficient to provide a substantial deterrent to licensee noncompliance with regulatory requirements. Provisions for the levying of monetary penalties are recommended. Enforcement letters should be issued within 30 days following inspections and should employ appropriate regulatory language clearly specifying all items of noncompliance and health and safety matters identified during the inspection and referencing the appropriate regulation or license condition being violated. Enforcement letters should specify the time period for the licensee to respond indicating corrective actions and actions taken to prevent re-occurrence (normally 20–30 days). The inspector and compliance supervisor should review licensee responses. Licensee responses to enforcement letters should be promptly acknowledge as to adequacy and resolution of previously unresolved items. Written procedures should exist for handling escalated enforcement cases of varying degrees. Impounding of material should be in accordance with State administrative procedures. Opportunity for hearings should be provided to assure impartial administration of the radiation control program.
Inspection Procedures	II	Inspection guides, consistent with current NRC guidance, should be used by inspectors to assure uniform and complete inspection practices and provide technical guidance in the inspection of licensed programs. The NRC-Agreement States Guides may be used if properly supplemented by policy memoranda, agency interpretations, etc.

Indicators	Category	Guidelines
		Written inspection policies should be issued to establish a policy for conducting unannounced inspections, obtaining corrective action, following up and closing out previous violations, assuring exit interviews with management, and issuing appropriate notification of violations of health and safety problems. Procedures should be established for maintaining licensees' compliance histories. Oral briefing of supervisors or the senior inspector should be performed upon return from nonroutine inspections. For States with separate licensing and inspection staffs procedures should be established for feedback of information to license reviewers.
Inspection Reports	II	Findings of inspections should be documented in a report describing the scope of inspections, substantiating all items of noncompliance and health and safety matters, describing the scope of licensees' programs, and indicating the substance of discussions with licensee management and licensee's response. Reports should uniformly and adequately document the results of inspections and identify areas of the licensee's program which should receive special attention at the next inspection. Reports should show the status of previous noncompliance and the independent physical measurements made by the inspector.
Independent Measurements.	II	Independent measurements should be sufficient in number and type to ensure the licensee's control of materials and to validate the licensee's measurements. RCP instrumentation should be adequate for surveying license operations (e.g., survey meters, air samplers, lab counting equipment for smears, identification of isotopes, etc.). GM Survey Meter: 0–20 mr/hr Ion Chamber Survey Meter: several r/hr Neutron Survey Meter: Fast & Thermal Alpha Survey Meter: 0–100,000 c/m Air Samplers: Hi and Lo Volume Lab Counters: Detect 0.001 µc/wipe Velometers Smoke tubes Lapel Air samplers Instrument calibration services or facilities should be readily available and appropriate for instrumentation used. Licensee equipment and facilities should not be used unless under a service contract. Exceptions for other State Agencies, e.g., a State University, may be made. Agency instruments should be calibrated at intervals not greater than that required to licensees being inspected.

Dated at Washington, DC this 30th day of November 1981.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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47 FR 7352
Published 2/18/82

Nuclear Power Plant Staff Working Hours

AGENCY: Nuclear Regulatory Commission.

ACTION: Publication of Policy Regarding Nuclear Power Plant Staff Working Hours.

SUMMARY: The Nuclear Regulatory Commission has been concerned that excessive work hours by personnel at nuclear power plants could lead to situations where fatigued personnel might not be alert, might use poor judgment, or might make poor decisions affecting the safety of the nuclear plant, which could potentially jeopardize the health and safety of the public. In attempts to assure that utility organizations avoid situations where fatigued personnel might be on shift, the NRC has issued previous guidance regarding overtime restrictions. However, the policy has been evolving and it appears that earlier guidance should be revised.

On July 22, 1981, the NRC staff submitted a paper, "Nuclear Power Plant Staff Working Hours," SECY 81-440, for consideration by the Commissioners. The paper was intended to resolve the inconsistencies in the previous guidance and to serve the purpose of the NRC in protecting public health and safety while recognizing the practical aspects of working hour limitations as they affect nuclear power plant operation.

After consideration of this NRC staff paper, the Nuclear Regulatory Commission has now issued the following policy statement concerning fatigue at nuclear plants:

Policy on Factors Causing Fatigue of Operating Personnel at Nuclear Reactors

Licensees of operating plants and applicants for operating licenses shall establish controls to prevent situations where fatigue could reduce the ability of operating personnel to keep the reactor in a safe condition. The controls should focus on shift staffing and the use of overtime—key job-related factors that influence fatigue.

The objective of the controls would be to assure that, to the extent practicable, personnel are not assigned to shift duties while in a fatigued condition that could significantly reduce their mental alertness or their decisions making capability. The controls shall apply to the plant staff who perform safety-related functions (e.g., senior reactor operators, reactor operators, health physicists, auxiliary operators, and key maintenance personnel).

Enough plant operating personnel should be employed to maintain adequate shift coverage without routine heavy use of overtime. However, in the event that unforeseen problems require substantial amounts of overtime to be used, on a temporary basis, the following guidelines shall be followed:

a. An individual should not be permitted to work more than 16 hours straight (excluding shift turnover time).

b. An individual should be not permitted to work more than 16 hours in any 24-hour period, nor more than 24 hours in any 48-hour period, nor more than 72 hours in any seven day period (all excluding shift turnover time).

c. A break of at least eight hours should be allowed between work periods (including shift turnover time).

d. The use of overtime should be considered on an individual basis and not for the entire staff on a shift.

Recognizing that very unusual circumstances may arise requiring deviation from the above guidelines, such deviation shall be authorized by the plant manager or his deputy, or higher levels of management. The paramount consideration in such authorization shall be that significant reductions in the effectiveness of operating personnel would be highly unlikely.

In addition, procedures are encouraged that would allow licensed operators at the controls to be periodically relieved and assigned to other duties away from the control board during their tour of duty.

Utility holders of operating licenses and construction permits are being advised of this Commission policy. Utilities who hold operating licenses will be requested to amend the Administrative Section of the Technical Specifications for their operating plants to require administrative procedures regarding working hour restrictions which conform to the new Commission policy. Applicants for operating licenses will be requested to develop appropriate administrative procedures and Technical Specifications prior to fuel loading. At the same time, Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," and NUREG–0737 (Item I.A.1.3) are being revised to incorporate the guidance of the policy statement.

For Further Information Contact: Mr. Lawrence P. Crocker, (301) 492–8357.

Dated at Bethesda, Maryland, this 11th day of February 1982.

For the Nuclear Regulatory Commission.

Lawrence P. Crocker,

Acting Section Leader, Management Technology Section, Licensee Qualifications Branch, Division of Human Factors Safety.

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47 FR 31482
Published 7/20/82

Policy Statement of Information Flow

AGENCY: Nuclear Regulatory Commission.

ACTION: Final Statement of Policy.

SUMMARY: The Commission has approved this policy statement to emphasize to licensees their responsibility to provide the Commission with timely and accurate information during the course of an incident or significant event.

EFFECTIVE DATE: July 20, 1982.

FOR FURTHER INFORMATION CONTACT: George Eysymontt, Office of Policy Evaluation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone (202) 634–3302.

Policy Statement of Information Flow

All licensees have a responsibility to provide the Commission with timely accurate and sufficiently complete information to make sound regulatory decisions. The purpose of this policy statement is to emphasize to all licensees the special importance of this responsibility during the course of an incident or a significant event. The Commission recognizes that licensees, rather than the Commission, have the ultimate responsibility for safe operation of their facilities including response to significant events. However, if inaccurate, insufficient of deliberately misleading information is provided, it could impede the Commission's ability to fullfill its own responsibilities.

The capability of the Nuclear Regulatory Commission to make timely recommendations and to provide information regarding actual or potential threats to the public health and safety depends on the timeliness, accuracy and completeness with which incidents and significant events are communicated by licensees to the Commission. While the majority of occurrences resulting from licensed activities pose little or no serious or immediate threat to the public health and safety, there are certain occurrences which may pose such threats or generate public concern. In order to perform its regulatory responsibilities the Nuclear Regulatory Commission has an important need to collect facts quickly, accurately and completely about incidents or significant events, assess these facts, take necessary supportive action, and inform the public.

In view of the Commission's responsibilities, it is essential that licensees and personnel at licensed facilities or involved in licensed activities communicate candidly and completely with the Commission at all times and in particular in the following situations:

(a) any incident involving byproduct, source, or special nuclear material possessed by a licensee which may have caused or threatens to cause exposure to certain levels of radiation (see 10 CFR 20.403).

(b) any significant event as defined in 10 CFR 50.72 involving a nuclear power reactor (e.g., any event requiring initiation of the licensee's emergency plan or any section of that plan).

(c) any case of accidental criticality or any loss, other than normal operating loss, of special nuclear material (see 10 CFR 70.52).

(d) any incident in which an attempt has been made, or is believed to have been made, to commit a theft or unlawful diversion of special nuclear material which a licensee is licensed to possess, or to commit an act of industrial sabotage against a licensee's plant or transportation system (see 10 CFR 73.71).

Although their primary responsibility is to deal with any occurrence, licensees will be held accountable for informing the NRC. In those instances when doubt may exist concerning the severity of an occurrence, its consequences, and the potential for further degradation of the situation, licensees should report candidly such uncertainty. They should not fail to communicate with the Commission for reasons such as optimism or fear of public reaction. The Commission cannot and will not tolerate less than timely, candid, and sufficiently complete reporting and intends to deal forcefully with licensees and their responsible personnel when communications are unsatisfactory or when deliberately misleading information is supplied. Sanctions will be imposed on licensees who fail to meet their obligations with respect to Commission requirements. In assessing whether a licensee has met its obligation, the Commission will keep in mind that some judgment on the part of the licensee is called for. Licensees should keep in mind that they are responsible for assuring their judgments are sound—made by competent people who are themselves assured of timely, accurate and sufficiently complete information through adequate procedures.

Dissenting View of Commissioner Thomas M. Roberts

While fully supporting the laudatory goal of encouraging full and candid provision of information between licensees and the NRC, I disapprove this policy statement on the grounds that it is vague and overly broad. With regard to its vagueness, I note that it is unclear exactly what situations and what subjects are covered by this statement. While titled "Policy Statement on Information Flow" and thus seemingly covering the provision of information by all licensees at all times, the text of the statement implies that its coverage is limited to the provision of information during incidents or significant events. Moreover, the statement is vague as to the precise types of information with which the Commission wishes to be provided.

Due to this broad general language, licensees will be hard pressed to determine the kinds of actions which will demonstrate full compliance with this policy statement. The Atomic Energy Act contemplates that the Commission will require by regulation that information which it determines is necessary and/or desirable. 42 U.S.C. 2133, 2201. Here, the Commission, has chosen not to exercise this authority. Rather, it has delegated this identification process to licensees by requesting the provision of "timely, accurate, and sufficiently complete information [for the Commission] to make sound regulatory decisions." Thus, licensees must determine what it is that the Commission needs to make what the Commission considers to be sound regulatory decisions.

Finally, while I realize that a policy statement is not legally enforceable, I note that most licensees make good faith attempts to comply with such statements. This statement appears to 'request the provisions of information in addition to that already required by NRC regulations and/or license conditions and technical specifications.[1] Thus, to the extent that this statement imposes additional "requirements," the statement would appear to be rulemaking via policy statement. If the Commission has identified the need for additional reporting requirements, it would be preferable to promulgate these by rulemaking.

Dated at Washington, D.C. this 15th day of July 1982.

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47 FR 37007
Published 8/24/82

Use of High-Enriched Uranium (HEU) in Research Reactors; Policy Statement

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Statement of policy.

SUMMARY: The Nuclear Regulatory Commission (NRC) has licensing responsibility for domestic use and for export abroad of Special Nuclear Material, including High-Enriched Uranium (HEU), and is interested in reducing, to the maximum extent possible, the use of HEU in domestic and foreign research reactors. The NRC is pleased to note that the current U.S. Administration continues to support the Reduced Enrichment for Research and Test Reactors program and that to date the U.S. Congress has approved adequate funding for this program. In this connection, the NRC has prepared the following policy statement.

FOR FURTHER INFORMATION CONTACT: James V. Zimmerman, Assistant Director, Office of International Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, (301) 492-7866.

SUPPLEMENTARY INFORMATION:

In the 1950's the U.S. entered into several short-term agreements for cooperation (5–10 years) allowing for the export of research reactors and fuel under the "Atoms for Peace" program. In subsequent years the U.S. has been a major supplier of high-enriched uranium (HEU) for use abroad, primarily in research and test reactors. Such reactors produce radioisotopes for use in such areas as medicine, agriculture, desalination, research in biological effects of radiation, etc. Materials test reactors are also used to train future operators of commercial power reactors and to test new materials and fuels.

In the mid 1970's, particularly following India's detonation of a nuclear explosive device in 1974, nuclear proliferation concerns began to increase. Expanded efforts were undertaken to prevent nuclear power programs from being exploited to produce nuclear weapons. Particular concerns were expressed with respect to the proliferation risks associated with inventories of HEU for research and test reactors abroad. The widespread use of HEU fuel, which involved a large number of domestic and international fuel shipments, increases the risks of proliferation through theft or diversion of this material. In contrast to HEU, the use of fuel with lower enrichments reduces proliferation risks.

In an effort to allay concerns of proliferation risks, efforts were made to reduce HEU inventories, on the assumption that any reduction in the potential for access to these inventories would constitute a reduction in the proliferation risk. These concerns eventually led to the establishment of the reduced enrichment for research and test reactors (RERTR) program. This program was established to develop and demonstrate the technology that will facilitate the use of reduced-enrichment uranium fuels in research and test reactors. If successful, this could lead to a significant reduction of HEU inventories abroad, and thereby increase the proliferation resistance of related fuel cycles.

The objective of the RERTR program is to develop research and test reactor fuels which will allow substitution of uranium of low enrichment (LEU, less than 20%) for HEU and which will not significantly affect reactor performance characteristics or fuel cycle costs. On an interim basis, some reactors may utilize intermediate enrichment fuels (45%), while the LEU fuel development program is in progress. It should be noted, however, that no U.S. effort will be made to develop fuels with enrichments significantly below 20%, because of the increasing magnitude of plutonium production in fuels with very low or no enrichment.

To date, DOE has initiated a development and test program managed by the Argonne National Laboratory (ANL) to prove the feasibility of the new lower enrichment fuels. Many foreign countries are cooperating with the U.S. in this effort, and, within the past year, NRC has issued several export licenses for reduced-enrichment uranium to be fabricated into test elements for foreign and domestic research reactors.

Assuming RERTR program success, most of the performance testing of LEU aluminide and oxide fuels with high uranium densities for use in plate-type reactors will be completed by the end of 1984. The irradiation of pin-type zirconium hydride fuel with high uranium density for use in Triga-type, and possibly plate-type, reactors will be completed in 1983. Assuming licensing approvals, these fuels could then enter into full scale use in appropriate reactors. Silicide fuels with very high uranium densities are also being developed and tested by the RERTR program. These fuels may be needed for conversion of high power reactors.

As part of the overall RERTR program, Argonne conducts for DOE a technical and economic evaluation of each significant HEU export license application including the potential of the reactor for conversion to reduced-enrichment fuel within the planned availabilities of appropriate reduced-enrichment fuels. Nearly all potential conversion candidates have been evaluated. Technical conversion schedules are being planned by reactor operators based on demonstration and licensability of the fuel. Based on the technical and economic evaluation by ANL, a coordinated Executive Branch recommendation on the license application is developed by the Department of State and is submitted to the NRC.

The objectives of the RERTR program have been fully supported by NRC since its inception. The Commission has also utilized Argonne's analyses in support of its reviews of proposed interim exports of HEU, particularly with respect to determining the dates when conversion to lower-enriched fuels can be anticipated. The Commission is pleased to note that the current Administration continues to support the RERTR program and that Congress has approved adequate funding for the program.

The Commission also notes that several types of LEU fuel are currently being tested in DOE's RERTR program. As soon as all the necessary tests are completed, the Commission is prepared to act expeditiously to review the use of the new fuel in domestic research and test reactors licensed by NRC.

With respect to future export license applications for HEU, bearing in mind the Commission's responsibility to make an overall finding that each export would not be inimical to the common defense and security of the U.S., the Commission intends to continue its current practice of careful scrutiny to verify that additional interim HEU exports are justified. The Commission plans to continue to monitor the progress of the RERTR program so that it can understand what would be appropriate conversion schedules, and to encourage that actions be taken to eliminate U.S.-supplied inventories of HEU to the maximum degree possible.

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[1] The policy statement states that "[s]anctions will be imposed on licensees who fail to meet their obligations *with respect to Commission requirements*." (emphasis added) Thus, the statement implies that its coverage extends to the provision of information in addition to that which is legally required and enforceable.

The Commission notes that U.S. research reactor operators have shown little interest in converting to lower enrichment fuel. As part of a policy to strongly encourage conversion by foreign operators, the Commission will take steps [1] to encourage similar action by U.S. research reactor operators.

Dated at Washington, D.C. this 17th day of August, 1982.

For the Commission.

Samuel J. Chilk,

Secretary of the Commission.

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[1] Because the "steps" referred to in the above sentence have not been detailed or discussed, Commissioner Roberts does not agree to the sentence since it implies that a specific course of action will be followed by the NRC.

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47 FR 50591
Published 11/8/82

Licensing and Regulatory Policy and Procedures for Environmental Protection; Uranium Fuel Cycle Impacts

AGENCY: Nuclear Regulatory Commission.

ACTION: Statement of policy.

Earlier this year a decision of the United States Court of Appeals for the District of Columbia Circuit vacated three Commission rules which govern the treatment of uranium fuel cycle environmental impacts in individual nuclear power reactor licensing proceedings. *Natural Resources Defense Council, et al.* v. *NRC*, No. 74-1586 and consolidated cases (decided April 27, 1982).[1] By its order of September 1, 1982, the D.C. Circuit stayed its mandate pending the filing of application for review of the decision by the Supreme Court. The Solicitor General, on behalf of the Nuclear Regulatory Commission, on September 27, 1982, filed with the Supreme Court a petition for a writ of *certiorari*. Other parties to the case have also filed petitions for Supreme Court review. In this Statement of Policy the Commission provides guidance to the Commission's staff and licensing boards and the interested public regarding ongoing licensing proceedings and the status of licenses already issued, pending final action by the Supreme Court.[2]

1. Background of the Decision in NRDC v. NRC

The rules in question form part of the Commission's procedures for compliance with the National Environmental Policy Act of 1969 (NEPA). 10 CFR Part 51. The Commission has interpreted NEPA as requiring that the environmental impacts of the uranium fuel cycle be considered in environmental impact statements for individual light water nuclear power reactors.[3] The Commission determined some time ago that a generic rule would be the most effective means for considering such impacts in individual reactor licensing proceedings. The most recent version of the Commission's fuel cycle rule, the "Final" fuel cycle rule, was promulgated in 1979. 44 FR 45362 (August 2, 1979). 10 CFR 51.20, 51.23. The rule is frequently referred to as "Table S-3," after the table of impacts which the rule prescribes for use in evaluating the fuel cycle contribution to the environmental costs of licensing an individual nuclear power reactor. In issuing reactor construction permits and operating licenses the Commission has relied on this fuel cycle rule or its predecessors (the "Original" and "Interim" rules) since adoption of the Original rule in 1974. 39 FR 14188 (April 22, 1974).

Litigation involving the fuel cycle rules began with the Original S-3 rule. In a decision issued July 21, 1976 the United States Court of Appeals for the District of Columbia Circuit set aside those portions of the Original rule pertaining to waste management and spent fuel reprocessing. *Natural Resources Defense Council* v. *NRC*, 547 F.2d 633, rev'd *sub nom. Vermont Yankee Nuclear Power Corp.* v. *NRC*, 435 U.S. 519 (1978), but the court stayed its mandate pending review on a petition for *certiorari* to the United States Supreme Court. The Supreme Court reversed the Court of Appeals and remanded for further proceedings. The Court of Appeals consolidated the remanded case with challenges to the Commission's Interim and Final fuel cycle rules and issued a decision on April 27, 1982. *NRDC* v. *NRC*, No. 74-1486 and consolidated cases.

2. The Holding by the Court of Appeals

In the D.C. Circuit's decision in *NRDC* v. *NRC*, Judge Bazelon, speaking for the majority, held the Commission's Original, Interim and Final Table S-3 rules invalid "due to their failure to allow for proper consideration of the uncertainties that underlie the assumption that solidified high-level and transuranic wastes will not affect the environment once they are sealed in a permanent repository." Slip Op. at 69. The court's opinion acknowledged that in promulgating the Final rule the Commission considered and disclosed uncertainties concerning permanent disposal of spent fuel and high-level wates from power reactors. *See* the Commission's notice of final rulemaking. 44 FR 45362 (August 2, 1979). The court did not suggest that the evidentiary record for the Commission's final rulemaking omitted any substantial body of material regarding waste disposal uncertainties which might have been available at the time of the rulemaking. Nevertheless, the court held it to be a violation of NEPA that the rule binds Licensing Boards to evaluate fuel cycle impacts on the basis of waste disposal impacts in Table S-3, which does not explicitly include uncertainties.[4]

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[1] On June 30, 1982 the D.C. Circuit denied the Commission's petitions for rehearing and rehearing *en banc*.

[2] The Commission dealt with a previous invalidation of a fuel cycle rule by the D.C. Circuit in 1976 by issuance of a policy statement. *Natural Resources Defense Council* v. *NRC*, 547 F.2d 633, rev'd *sub nom. Vermont Yankee Nuclear Power Corp.* v. *NRC*, 435 U.S. 519 (1978). *See* General Statement of Policy, 41 *Fed. Reg.* 34707 (August 16, 1976), and Supplemental General Statement of Policy, 41 *Fed. Reg.* 49898 (November 11, 1976). For reasons discussed in the text below, the Commission does not believe that the major, though temporary, disruption in licensing announced by the policy statement of August 1976 is a necessary or appropriate response to the D.C. Circuit's latest decision.

[3] In addition to the operation of the nuclear power reactor itself, the uranium fuel cycle includes uranium mining and milling, the production of uranium hexafluoride, isotopic enrichment, fuel fabrication, spent fuel storage and disposal, possible reprocessing of irradiated fuel, transportation of radioactive materials and management of low- and high-level wastes.

[4] Concerning the choice not to include uncertainties explicitly in Table S-3, the Commission stated in promulgating the rule:

In view of the uncertainties noted regarding waste disposal, the question then arises whether these

Although the court concluded that uncertainties could be dealt with generically, rather than on a case-by-case basis, the court held that the Table S-3 rule in question "does not allow the uncertainites concerning permanent storage to play a role in the ultimate licensing decision. That omission, and hence, the Rule, which causes it, constitutes a blatant violation of NEPA." Slip Op. at 46. The dissenting opinion by Judge Wilkey rejected the majority's analysis and would have upheld the Final rule on the grounds that in dealing with uncertainties the Commission had considered the relevant factors and arrived at a reasonable policy judgment.

An additional challenge had been raised on the Original and Interim rules that they improperly precluded Licensing Boards from considering health effects that might result from radioactive effluents set out in Table S-3 and also precluded consideration of socioeconomic and possible cumulative impacts of the fuel cycle.[5] No such preclusion appeared explicitly in the rules, and the Commission had maintained before the court that no preclusion had been implicitly intended or ever actually applied. Nevertheless, the majority held that the Original rule and the Interim rule, prior to an amendment in 1978, "effectively eliminated the consideration and disclosure of the health, socioeconomic and cumulative impacts of fuel-cycle activities." Slip Op. at 57. Accordingly, the majority held that the Original and Interim rules, in addition to their failure to provide for proper consideration of uncertainties, also failed to allow for proper consideration of health, socioeconomic and cumulative fuel cycle effects.

On the issue whether the waste management and reprocessing models underlying the entries in Table S-3 would be economically feasible, a majority of the panel (Judge Bazelon and Judge Wilkey) upheld the Commission's finding of feasibility.

3. Effect on the Power Reactor Licensing Program

The D.C. Circuit's decision does not call into question the Commission's awareness of waste disposal uncertainties or the adequacy of the evidence regarding uncertainties in the record on which the Commission relied. [6] The state of the Final rulemaking record does not suggest that supplementary studies of uncertainties are likely to produce evidence that would change licensing decisions. The Commission continues to address the uncertainty over whether and when a permanent repository, or equivalent system of disposal, will be developed. Slip Op. at 45. The Commission has stated that it would not license plants without reasonable confidence that safe waste disposal will be available when needed, and has found that it has such reasonable confidence. 42 FR 34391 (July 5, 1977), *NRDC* v. *NRC*, 581 F.2d 166 (2d Cir. 1978). The Commission is now entering the final stages of the so-called "waste confidence" proceeding, a proceeding designed to reassess whether there is reasonable assurance that safe waste disposal will be available when needed. 44 FR 61372 (1979). The Court of Appeals has made clear that licensing need not be suspended pending the outcome of this reassessment. *See Potomac Alliance* v. *NRC*, —— F.2d —— (D.C. Cir. No. 80-1862, decided July 20, 1982). In view of these considerations and the high cost of delaying the issuance of licenses for qualified facilities, the Commission concludes that power reactor licensing may continue. Should the "waste confidence" proceeding arrive at an outcome inconsistent with this policy judgment, the Commission will immediately inform the Congress and will reassess the positions taken in this policy statement.

Next the question arises what role the fuel cycle rules should play in continued licensing. As the Commission interprets the D.C. Circuit and Supreme Court decisions which bear on enviromental analysis of fuel cycle impacts, the Commission could conduct individual licensing proceedings by addressing fuel cycle impacts on a case-by-case basis without a generic rule. The Commission already deals with the matter partly in this fashion. In application of the Commission's Final rule a number of significant generic fuel cycle issues, including health effects associated with the effluents given in Table S-3, are presently treated on a case-by-case basis, pending further progress toward an expanded generic rule. To move further toward case-by-case litigation would reintroduce the significant burdens the rule was intended to relieve. Use of the S-3 rule has served the important purpose of providing the underlying basis for consideration of fuel cycle impacts, and the Commission believes that an attempt to proceed without the rule would probably prove unworkable. In principle, and quite possibly in practice, contested licensing cases could rapidly evolve into replays of the S-3 rulemaking. [7] The resulting delay and drain on staff resources would be substantial, and would not only delay licensing of qualified facilities, but would also substantially disrupt the Commission's regulatory program, including its program to develop safety standards for high-level waste disposal facilities.

The most straightforward way of proceeding is to continue using the S-3 rule in licensing, pending possible supplementation to be discussed later in this statement, insofar as such use is permissible. The Commission notes that after the *NRDC* v. *NRC* decision of 1976 invalidating the Original S-3 rule, 547 F.2d 633, the court, by staying its mandate, in effect permitted the continuation of licensing pursuant to the rule pending further judicial proceedings provided that future licenses be conditioned on the outcome of those proceedings. *See* Supplemental General

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uncertainties can or should be reflected explicitly in the fuel cycle rule. The Commission has concluded that the rule should not be so modified. On the individual reactor licensing level, where the proceedings deal with fuel cycle issues only peripherally, the Commission sees no advantage in having licensing boards repeatedly weigh for themselves the effect of uncertainties on the selection of fuel cycle impacts for use in cost-benefit balancing. This is a generic question properly dealt with in this rulemaking as part of choosing what impact values should go into the fuel cycle rule. The Commission concludes, having noted that uncertainties exist, that for the limited purpose of the fuel cycle rule it is reasonable to base impacts on the assumption which the Commission believes the probabilities favor, *i.e.*, that bedded-salt repository sites can be found which will provide effective isolation of radioactive waste from the biosphere.

44 FR 45369 (footnote omitted).

[5] This challenge was not raised against the Final rule, which specifically requires that environmental impact statements "shall take account of dose commitments and health effects from fuel cycle effluents set forth in Table S-3 and shall in addition take account of economic, socioeconomic, and possible cumulative impacts and such other fuel cycle impacts as may reasonably appear significant." 10 CFR 51.23(c). Since ongoing licensing proceedings depend on the Final rule, this aspect of the court's decision does not bear on the Commission's decision whether to continue licensing.

[6] The Commission thus views the present decision by the D.C. Circuit not as a finding of fault with the evidentiary record on waste management impacts and uncertainities but rather as a rejection of the Commission's policy judgments regarding the weight and effect which those impacts and uncertainties should exert in reactor licensing. By way of contrast, after the D.C. Circuit issued its 1976 decision the Commission suspended licensing pending the outcome of a supplementary environmental survey of waste management and reprocessing impacts to remedy what the Commission perceived as gaps in the record identified by the court. 41 FR 43707, 43708, col. 2.

[7] The same result could follow if the Commission amended the rule to allow Licensing Boards to take evidence on uncertainties in the Table S-3 entries. Such a proceeding could readily lead to complete reexamination of the Table by each board.

Statement of Policy, 41 FR 49898 (November 11, 1976). The D.C. Circuit's current stay of mandate and the filing of petitions for Supreme Court review place the present case in a similar posture. Indeed the NRC advised the D.C. Circuit that it would proceed in reliance on the rule should the court grant its request to stay the mandate. The Commission anticipates that the mandate will not issue until the Supreme Court has either declined review or taken review and addressed the merits of the lower court's decision. Accordingly, the Commission directs its Licensing and Appeal Boards to proceed in continued reliance on the Final S–3 rule until further order from the Commission, provided that any license authorizations or other decisions issued in reliance on the rule are conditioned on the final outcome of the judicial proceedings.

With regard to licensing proceedings now closed in which there was reliance on any of the fuel cycle rules, the Commission has concluded that for the present, at least, show-cause proceedings based on issues raised by the D.C. Circuit's decision should not be initiated. The Court of Appeals specifically noted that it expressed no view as to the validity of licenses already issued pursuant to the rules and that the matter of the validity of each would be addressed in subsequent judicial proceedings. Slip Op. at 69. Several cases which have been held in abeyance pending disposition of the main case challenge the validity of licenses and permits issued for specific facilities.[8] The Commission believes these cases should remain in abeyance, pending final Supreme Court action and has advised the courts of this position. The Commission does not intend to initiate show-cause proceedings *sua sponte* for these or other licenses, pending further direction by the courts. The Commission directs that any petitions for such proceedings filed pursuant to 10 CFR 2.206, insofar as they raise issues associated with validity of the S–3 rules, be held in abeyance pending a further order from the Commission.

4. Supplementation of the Record

As the Commission noted in promulgating the Final rule, events which might lead to major releases from the bedded-salt repository used as the model for the S–3 rule appear remote in probability while any releases which might reasonably be expected eventually to occur appear very small. Accordingly, the Commission found that the staff's assumption that the integrity of the repository would be maintained after sealing was a reasonable description of the performance of a properly selected repository and, when taken together with the staff's highly conservative assumption that all volatile fission products in reactor spent fuel would be released to the atmosphere prior to repository sealing, left Table S–3 overall a conservative description of fuel cycle impacts. *See* 44 FR 45369, col. 2. Considering the rule's limited purpose and taking into account the Commission's "waste confidence" proceeding, the Commission continues to believe that the record of the final S–3 rulemaking contains adequate information on waste disposal uncertainties to support continued use of the fuel cycle rule.

The Commission notes that over the past few years considerable effort has been devoted to the development of the national standards for a repository by the Environmental Protection Agency. These draft standards are essentially complete and should be issued soon as formal proposals. The NRC staff has informed the Commission that the release limits contained in the EPA standards and the studies done in support of the standards may provide additional information on releases associated with waste disposal. The Chairman of the NRC has urged early issuance of these important standards and the supporting documents.

The NRC staff has been directed to examine the EPA standard when published for comment and supporting documentation as it becomes available to determine the degree to which it could be used in Table S–3. This examination will include releases under both normal and abnormal conditions. The NRC staff should be prepared to provide recommendations on possible revisions within 60 days of publication of the EPA standards for comment.

Dated at Washington, D.C. this 29th day of October, 1982.

Samuel J. Chilk,

Secretary of the Commission.

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[8] The court cited five cases now before the D.C. Circuit in which individual licenses granted under the Original or Interim rules have been challenged on that ground. These include *Lloyd Harbor Study Group, Inc.* v. *NRC*, No. 73–2266; *Aeschliman* v. *NRC*, No. 73–1776; *Saginaw Valley Study Group* v. *NRC*, No. 73–1867; *NRDC* v. *NRC*, No. 74–1385; *Coalition for the Environment* v. *NRC*, No. 77–1905. Also, there is pending in the First Circuit a challenge to a reactor construction permit involving as an issue the validity of the fuel cycle rule. *New England Coalition on Nuclear Pollution* v. *NRC*, No. 76–1525.

48 FR 10772
Published 3/14/83

Safety Goal Development Program

The Nuclear Regulatory Commission hereby published a Policy Statement on Safety Goals for the Operation of Nuclear Power Plants. The Policy Statement contains preliminary safety goals and preliminary numerical design objectives that are intended to be consistent with the goals. The goals and objectives are preliminary in that they are subject to change at the end of a two-year evaluation period that is discussed below. The Commission previously published a Proposed Policy Statement on Safety Goals for Nuclear Power Plants and solicited comments (47 FR 7023, February 17, 1982). In response to these comments the Commission has revised the policy statement.

The Commission is also publishing the staff's Evaluation Plan that will be used during the two-year evaluation period. Comments are solicited for this plan. The Commission has chosen a 90-day period for receipt of public comments.

The Commission also announces the start of the two-year period of evaluation for the Safety Goal Policy Statement. The staff's Evaluation Plan is an initial description of the activities to be performed during the evaluation period. The Commission has not issued this document for public comment prior to this time.

The early evaluation activities to be performed will include an assessment of the public comments received on the Evaluation Plan and the preparation of a report to the Commission on these comments. The Commission is particularly interested in comments on the extent to which the Evaluation Plan establishes a foundation for the development of an implementation plan at the conclusion of the evaluation period. That implementation plan would prescribe how final safety goals and numerical design objectives would be used in the regulatory process. The evaluation period will also include an assessment of the preliminary safety goals and design objectives. The Commission would like comments on this aspect of the Evaluation Plan as well.

It should be noted that, during the evaluation period, the preliminary safety goals and preliminary numerical design objectives will not repalce the NRC's reactor regulations. Rather, NRC will continue to use conformance to regulatory requirements as the exclusive licensing basis for plants. One of the activities during the evaluation period will be to examine the extent to which the preliminary formulation of the goals and objectives, as well as possible techniques to use them, reflect the experience gained with the Commission's deterministic requirements.

The Commission recognizes that some probabilistic risk analyses have already been performed for individual nuclear plants and that safety inferences might be made as a result of comparing the results of these analyses to the preliminary design objectives. The Commission cautions against the use of such inferences to reach bottom-line safety conclusions. The Commission believes that existing requirements contained in current regulations are adequate to protect the public health and safety.

The Evaluation Plan stresses caution in making comparisons or safety inferences because collections of such analyses may not have been performed on consistent basis and because of the large uncertainties inherent in the existing probabilistic risk assessments. In particular, there are uncertainties in the source term that represents the amount of radioactive material that may be released from the reactor containment in a severe accident. Therefore, during the evaluation period, NRC will strive to set forth more consistent analytical bases and improve the treatment of uncertainties in the calculations, including use of a new source term which is currently being developed. NRC will also reassess the probabilitic risk assessments that have already been performed and compare the results to the preliminary safety goals and design objectives.

At the conclusion of the evaluation period, the Commission will consider if any revisions are necessary before the issuance of a final Policy Statement and a plan for its implementation. The documents that result will take into account the comments received from the public and the experience gained during the evaluation period.

Further information on the Commission's safety goal development program may be obtained by contacting either Dennis Rathbun or Jerry Wilson at the Office of Policy Evaluation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 or phoning (202) 634–3295. Written comments should be addressed to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch, and should be received by June 8, 1983.

A report which discusses the revisions to the Policy Statement will be published within a few weeks as NUREG–0880 Revision 1, *Safety Goals for the Operation of Nuclear Power Plants.* A copy of NUREG–0880 Revision 1 will be available for inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. Single copies of NUREG–0880, Revision 1 also will be available upon written request and at no cost. Requests should be made to the NRC–GPO Sales Program, Attention: Sales Manager, Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (Phone (301) 492–9530). Copies also may be purchased from the NRC–GPO Program and the National Technical Information Service, Springfield, Virginia 22161.

Dated at Washington, District of Columbia, this 8th day of March of 1983.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

Policy Statement on Safety Goals for the Operation of Nuclear Power Plants

I. Introduction.

A. Purpose and Scope

In its response to the recommendations of the President's Commission on the Accident at Three Mile Island, the Nuclear Regulatory Commission (NRC) stated that it was "prepared to move forward with an explicit policy statement on safety philosophy and the role of safety-cost tradeoffs in the NRC safety decisions." This policy statement is a step in that direction.

Current regulatory practices are believed to ensure that the basic statutory requirement, adequate protection of the public, is met. Nevertheless, current practices could be improved to provide a better means for testing the adequacy of and need for current and proposed regulatory requirements. The Commission believes that such improvement could lead to a more coherent and consistent regulation of nuclear power plants, a more predictable regulatory process, a public understanding of the regulatory criteria that the NRC applies, and public confidence in the safety of operating plants. This statement of NRC safety policy expresses the Commission's views on the acceptable level of risks to public health and safety and on the safety-cost tradeoffs in regulatory decisionmaking.

This policy statement focuses on the risks to the public from nuclear power plant operation. These are the risks from release of radioactive materials from the reactor to the environment from normal operations as well as from accidents. The Commission will refer to these risks as the risks of nuclear power plant operation. The risks from the nuclear fuel cycle are not included in the safety goal. These have been considered in their own right and determined to be quite small. They will continue to receive careful consideration. The possible effects of sabotage or diversion of nuclear material are also not presently included in the safety goal. At present there is no basis on which to provide a measure of risk on these matters. It is the Commission's intention that everything that is needed shall be done to keep such risks at their present, very low, level; and it is our expectation that efforts on this point will continue to be successful. With these exceptions, it is our intent that the risks from all various initiating mechanisms be taken into account to the best of the capability of current evaluation techniques.

In the evaluation of nuclear power plant operation, several types of releases are considered by the staff. The risks to the public resulting from operating nuclear power plants are addressed in current NRC practice as follows. Before a nuclear power plant is licensed to operate, NRC prepares an environmental impact assessment which includes an evaluation of the radiological impacts of routine operation of the plant and accidents on the population in the region around the plant site. The assessment is subjected to public comment and may be extensively probed in adjudicatory hearings. For all plants licensed to operate, NRC has found that there will be no measurable radiological impact on any member of the public from routine operation of the plant. (Reference: NRC staff calculations of radiological impact on humans contained in Final Environmental Statements for specific nuclear power plants, e.g., NUREG–0779, NUREG–0812, and NUREG–0854.)

The objective of the Commission's policy statement is to establish goals which limit to an acceptable level the radiological risk which might be imposed on the public as a result of nuclear power plant operation. While this policy statement includes the risks of normal operation, as well as accidents, the Commission believes that risks from routine emissions are small and therefore does not believe that they need to be routinely analyzed on a case-by-case basis in order to demonstrate conformance with the safety goals.

B. Development of This Statement of Safety Policy

In developing this policy statement, the Commission has solicited and benefited from the information and suggestions provided by workshop discussions. Two NRC sponsored workshops have been held, the first in Palo Alto, California, on April 1–3, 1981 and the second in Harpers Ferry, West Virginia, on July 23–24. The first workshop addressed general issues involved in developing safety goals. The second workshop focused on a discussion paper which presented proposed safety goals. Both workshops featured discussions among knowledgeable persons drawn from industry, public interest groups, universities, and elsewhere, and representing a broad range of perspectives and disciplines.

The Commission also received and considered a Discussion Paper on Safety Goals for Nuclear Power Plants submitted in November 1981 and a revised safety goal report submitted in July 1982, by its Office of Policy Evaluation.

In arriving at a final decision on a statement of its nuclear power plant safety policy and goals, the Commission has taken into consideration the comments and suggestions received from the public in response to the Proposed Policy Statement on "Safety Goals for Nuclear Power Plants."

II. Qualitative Safety Goals

The Commission has decided to adopt qualitative safety goals supported by design objectives for use during a 2-year evaluation period. The Commission's first qualitative safety goal is that the risk from nuclear power plant operation should not be a significant contributor to a person's risk of accidental death or injury. The intent is to require a level of safety such that individuals living or working near nuclear power plants should be able to go about their daily lives without special concern by virtue of their proximity to such plants. Thus, the Commission's first safety goal is:

> Individual members of the public should be provided a level of protection from the consequences of nuclear power plant operation such that individuals bear no significant additional risk to life and health.

Even though protection of individual members of the public inherently provides substantial societal protection, the Commission also decided that a limit be placed on the societal risks posed by nuclear power plant operation. The Commission believes that the risks of nuclear power plant operation should be comparable to or less than the risks from other viable means of generating the same quantity of electrical energy. Thus, the Commission's second safety goal is:

> Societal risks to life and health from nuclear power plant operation should be comparable to or less than the risks of generating electricity by viable competing technologies and should not be a significant addition to other societal risks.

The comparative part of this goal is to be interpreted as requiring that the risks from nuclear power plant operation are comparable to or less than the risks of the operation of competing electricity generating plants, particularly coal-fired plants.

III. Quantitative Design Objectives

A. General Considerations

As used here, a design objective is an aiming point for public risk reduction which nuclear plant designers and operators should meet where feasible. Since the design objectives are aiming points and not firm requirements, there may be instances where a given nuclear plant may not achieve all of the objectives. A key element in formulating a safety policy which establishes design objectives is to understand both the strengths and limitations of the techniques by which one judges whether these objectives have been met.

A major step forward in the development and refinement of accident risk quantification was taken in the Reactor Safety Study completed in 1975. The objective of the Study was "to try to reach some meaningful conclusions about the risk of nuclear accidents." The Study did not directly address the question of what level of risk from nuclear accidents was acceptable.

Since the completion of the Reactor Safety Study, further progress in developing probabilistic risk assessment and in accumulating relevant data has led to recognition that it is feasible to begin to use quantitative reactor safety design objectives for limited purposes. However, because of the sizable uncertainties still present in the methods and the gaps in the data base—essential elements needed to gauge whether the objectives have been achieved—the design objectives should be viewed as aiming points or numerical benchmarks which are subject to revision. In particular, because of the present limitations in the state of the art of quantitatively estimating risks, the design objectives are not substitutes for existing regulations.

B. Quantitative Design Objectives

We want to make clear at the beginning of this section that no death attributable to nuclear power plant operation will ever be "acceptable" in the sense that the Commission would regard it as a routine or permissible event. We are discussing acceptable risks, not acceptable deaths. In any fatal accident, a course of conduct posing an acceptable risk at one moment results in an unacceptable death moments later. This is true whether one speaks of driving, swimming, flying or generating electricity from coal. Each of these activities poses a calculable risk to society and to individuals. Some of those who accept the risk (or are part of a society that accepts risk) do not survive it. We intend that no such accident(s) will occur, but the possibility cannot be entirely eliminated. Furthermore, individual and societal risks are less than the risk that society is now exposed to from each of the other activities mentioned above.

1. *Individual and Societal Mortality Risks.* The Commission has decided to adopt the following two design objectives:

- The risk to an average individual in the vicinity of a nuclear power plant of prompt fatalities that might result from reactor accidents should not exceed one-tenth of one percent (0.1%) of the sum of prompt fatality risks resulting from other accidents to which members of the U.S. population are generally exposed.
- The risk to the population in the area near a nuclear power plant of cancer fatalities that might result from nuclear power plant operation should not exceed one-tenth of one percent (0.1%) of the sum of cancer fatality risks resulting from all other causes.

The Commission adopts this 0.1% ratio of the risks of nuclear power plant operation to the risks of mortality from non-nuclear plant origin to reflect the first qualitative goal, which would provide that individuals bear no significant additional risk. However, this does not necessarily mean that an additional risk that exceeds 0.1% would by itself constitute a significant additional risk. The 0.1 percent ratio to other risks is low enough to support an expectation that people living or working near nuclear power plants would have no special concern due to the plant's proximity.

The average individual in the vicinity of the plant is defined as the average individual biologically (in terms of age and other risk factors) and locationally who resides within a mile from the plant site boundary. This means that the average individual is found by accumulating the estimated individual risks and dividing by the number of individuals residing in the vicinity of the plant.

In applying the design objective for individual risk of prompt fatality, the Commission proposes to define the vicinity as the area within 1 mile of the nuclear power plant site boundary since calculations of the consequences of major reactor accidents suggest that individuals within a mile of the plant site boundary would generally be subject to the greatest risk of prompt death attributable to radiological causes. If there are no individuals residing within a mile of the plant boundary, then the vicinity should be taken as a one-mile annulus measured outward from the location of the first individual.

In applying the design objective for cancer fatalities, as a population guideline, the Commission proposes that the population generally considered subject to significant risk be taken as the population within 50 miles of the plant site. A substantial fraction of exposures of the population to radiation would be concentrated within this distance. This design objective would ensure that the estimated increase in the risk of delayed cancer fatalities from all potential radiation releases at a typical plant woud be no more than a small fraction of the year-to-year normal variation in the expected cancer deaths from non-nuclear causes. Morever, the prompt fatality limit protecting individuals generally provides even greater protection to the population as a whole. That is, if the design objective for prompt fatality is met for individuals in the immediate vicinity of the plant, the estimated risk for delayed cancer fatality to persons within 50 miles of the plant would generally be much lower than the limit set by the design objective for cancer fatality. Thus, compliance with the design objective applied to individuals close to the plant would generally mean that the aggregated estimated societal risk for a 50-mile radius area would be a number of times lower than it would be if compliance with just the design objective applied to the population as whole were involved.

2. *Benefit-Cost Guideline.* The Commission has adopted a benefit-cost guideline for use as one consideration in decisions on safety improvements. It has decided that a guideline of $1,000 per person-rem averted the adopted for trial use. The value is to be in 1983 dollars. This value should be modified to reflect general inflation in the future.

- The benefit of an incremental reduction of societal mortality risks should be compared with the associated costs of the basis of $1,000 per person-rem averted.

This guideline is intended to encourage the efficient allocation of resources in safety-related activities by providing that the expected reduction in public risk that would be achieved should be commensurate with the costs of the proposed safety improvements. The benefits as measured by an incremental reduction of societal mortality risks in terms of person-rem averted should be compared with the reasonably quantifiable costs of achieving that benefit (e.g., design and construction of plant modifications, incremetal cost of replacement power during mandated or extended outages, changes in operating procedures and manpower requirements). Applications of the benefit-cost guideline should be focused principally on situations where one of the quantified safety goals is not met. No further benefit-cost analysis should be made when it is judged that all of the design objectives have been met. This guideline does not replace the Commission's backfitting regulation (10 CFR 50.109).

The NRC staff has some experience in the use of the benefit-cost analysis and criteria in evaluating improvements to reduce the risks from normal operations. In the past the Commission discussed a benefit-cost value of $1,000/person-rem reduction in the evaluation of improvements proposed to reduce releases of radioactive material during normal reactor operations including expected operational occurrences. However, the use of a benefit-cost guideline in evaluating the means for reducing population risks from power reactor accidents would be new.

3. *Plant Performance Design Objective.* An important objective of efforts to reduce the public risk associated with nuclear power plant operation is to minimize the chance of serious reactor core damage since a major release of radioactivity may result from accidents involving severe core damage. Therefore, to assure emphasis on accident prevention, the Commission has decided to adopt a limitation on the probability of a large-scale core melt as an objective for NRC staff use in the course of reviewing and evaluating probabilistic risk assessments of nuclear power plants. The design objective for large-scale core melt is subordinate to the principale design objectives limiting individual and societal risks. This design objective may need to be revised as new knowledge and understanding of core performance under degraded cooling conditions are acquired. Thus, the Commission has selected the following design objective:

- The likelihood of a nuclear reactor accident that results in a large-scale core melt should normally be less than one in 10,000 per year of the reactor operation.

The Commission also recognizes the importance of mitigating the consequences of a core melt accident and continues to emphasize features such as containment, siting in less populated areas, and emergency planning as integral parts of the defense-in-depth concept.

IV. Implementation.

The qualitative safety goals supported by the quantitative design objectives are being adopted for use during a 2-year evaluation period. The Commission believes that an evalution period is necessary in order to judge effectiveness of the goals and design objectives. At the end of the evaluation period the Commission will consider what changes in the regulations and regulatory practices appear necessary in light of experience during the 2 years. Proposed changes in the regulations will be addressed in rulemaking proceedings.

To provide adequate protection of the public health and safety, current NRC regulations require conservatism in design, construction, testing, operation and maintenance or nuclear power plants. A defense-in-depth approach is mandated in order to prevent accidents from happening and to mitigate their consequences. Siting in less populated areas is emphasized. Emergency response capabilities are mandated to protect the surrounding population. It is not clear how the Commission's essentially deterministic regulations would be supplemented if the qualitative safety goals and quantitative design objectives—which are based on considerations of probable risk—were incorporated into the regulatory framework.

The basic impediment to adoption of regulations requiring risks to the public to be below certain quantitative limits, as exemplified by the quantitative design objective for large-scale core melt, is that the techniques for developing quantitative risk estimates are complex and, in the cases of interest here, have substantial associated uncertainties. This raises a serious question whether, for a specific nuclear power plant, the achievement of a regulatory-imposed quantitative risk goal can be verified with a sufficient degree of confidence. For this reason, the Commission has decided that, during the evaluation period, implementation of the Policy statement should be limited to uses such as examining proposed and existing regulatory requirements, establishing research priorities, resolving generic issues, and defining the relative importance of issues as they arise. The evaluation period should be used to develop information and understanding as to how to further define and use the design objectives and the cost-benefit guideline.

The qualitative safety goals and quantitative design objectives contained in the Commission's Policy Statement will not be used in the licensing process or be interpreted as requiring the performance of probabilistic risk assessments by applicants or licensees during the evaluation period. The goals and objectives are also not to be litigated in the Commission's hearings. The staff should continue to use conformance to regulatory requirements as the exclusive licensing basis for plants.

The detailed Staff Evaluation Plan addresses ways to use the Safety Goals during this trial period so as to gain the experience necessary for later application in the regulatory process. The Evaluation Plan outlines a process for obtaining this experience in developing new regulatory requirements as well as examining existing requirements to determine whether the regulatory basis needs to be revised.

It is expected that during the evaluation period familiarization may be gained with the techniques of risk estimation and sufficient data may be collected and analyzed so that the Commission can decide whether to expand the use of the Policy Statement or to propose rulemaking that would incorporate quantitative risk limits as design objectives in the regulations. The qualitative safety goals and quantitative design objectives may be changed as a result of the experience gained during the two-year evaluation period.

Separate views of Commissioner Gilinsky on the Commission's Policy Statement on Safety Goals

I do not support the Commission's Policy Statement on Safety Goals. As the Commission's Advisory Committee on Reactor Safeguards points out, the particular safety goals chosen by the Commission are poorly conceived. In addition, the Commission appears to be headed toward an over-reliance, in its regulatory decisions, on estimates of the overall nuclear power plant risks which are based on uncertain and unreliable calculational techniques. These techniques cannot bear the weight the

Commission intends them to support. We are unlikely ever to know with much confidence whether any plant meets the safety goal. I am concerned that, in spite of this, overly optimistic calculations will be used to rationalize a weakening of the regulatory system of public protection.

Safety Doctrine

My view remains that the only reliable guides to reactor safety are the time-tested engineering principles of careful construction and operation, redundant and diverse means of protection against core damage, sound containment, sufficient distance from populated areas, and effective emergency planning. The Commission should distill its experience, and the results of calculations, including probabilistic calculations, and state clearly and succinctly how each of these principles must be satisfied separately. Such limited engineering goals may not be as grand as all-encompassing ones, but they are much more practical.

The Commission is unfortunately on an opposite course: toward allowing the several layers of protection to be traded off one against the other without limit, presumably on the assumption that probabilistic risk assessment will prove to be sufficently workable and accurate to permit confident tradeoffs in specific reactor cases among the various elements of "defense in depth".

The Commission seems also to be counting heavily on a sharp reduction in the "source term", the estimated amount of volatile radioactive material that could be released in an accident. However much we may all hope that these estimates can be reduced, it is premature to count on this. Yet the statement that "siting in less populated areas is emphasized", which reflects longstanding Commission policy, was retained in the document by only one vote, over the opposition of the chairman and one other Commissioner, both of whom apparently want to retain the option of siting in more populated areas, and it was not reflected in any of the safety goals.

Safety Goals Poorly Conceived

So far as the safety goals themselves are concerned, my views are generally in accord with those expressed by the ACRS, the Commission's statutory advisory group, in a brief but highly critical January 10, 1983, letter to the Commissioners. It is unfortunate that the Commission decided not to discuss this letter with the Committee before adopting the safety goals statement, especially because the goals depart from the traditional approach of this regulatory agency and its predecessors: to protect the most exposed individual, and to put a ceiling on the overall impact of an accident. The Commission has also dropped the principle that the risk should continue to be reduced to a level that is "as low as reasonably achievable." As the ACRS points out, dropping this element removes the incentive for the industry to continue to improve its performance in the future.

Individual Risk Too Narrowly Defined; No Real "Societal" Goal

In setting a goal for individual risk near a nuclear plant, the Commission has included the prompt radiation fatalities from a nuclear accident, but not the delayed deaths from cancer, although in most instances the number of delayed deaths are likely to be greater. The cancer deaths are included in a second goal, which is improperly labeled a "societal" goal. This sets a limit on the number of cancer deaths caused by nuclear accidents at a plant at a fraction—one thousandth—of the cancer deaths in a fifty mile circle around the plant. Choosing such large circle has the effect of averaging the higher additional risk cancer to a relatively small population near the plant with the negligible risk to a much larger population distant from the plant. More importantly, it sets no ceiling on the overall impact of an accident—as a real societal goal would. This means that the larger the population around the plant, the larger the allowed impact, even though the benefit—power produced by the plant—is the same in both cases.

What the Commission should have done—and what the ACRS urged it to do—was to include both prompt deaths and those caused by subsequent cancers in defining the individual most at risk, and set a limit on this risk. In addition, it should have set a societal goal which put a ceiling on the impact from any single accident. This would have encouraged siting in less populated areas.

Core Melt Probabities Downplayed

The one part of the safety goal which comes closest to being potentially useful and workable is the guideline limiting core melt probabilities to less than one in ten thousand per year of reactor operation. (Calculations on the reactor hardware systems are on somewhat firmer ground, though even here the uncertainties are very large.) At the strong urging of the staff, however, the Commission has downplayed this portion of the goal, labeling it "subordinate". The difficulty seems to be that a substantial fraction of the operating plants may not meet this goal. At any rate, out of a compendium of about fifteen probabilistic risk assessments for operating reactors, roughly a third fail to meet this goal. Ironically, these results, which were given to the Commission and subsequently released only after I asked about them at a meeting on January 5, were immediately branded by the agency as highly uncertain. (Which, of course, they are. But I do not remember such emphatic warnings being attached to assessments which gave favorable results.)

Additional Views of Commissioner Ahearne

Commissioner Gilinsky raises several objections to the Safety Goal Policy Statement on which comments are necessary:

(1) The fundemental purpose of attempting to develop safety goals is to bring a more rational approach to regulating nuclear safety. It is *not*, as Commissioner Gilinsky implies, to allow "overly optimistic calculations [to] be used to rationalize a weakening of the regulatory system of public protection."

(2) Commissioner Gilinsky states that "My view remains that the only reliable guides to reactor safety are the time-tested engineering principles of careful construction and operation, redundant and diverse means of protection against core damage, sound containment, sufficient distance from populated areas, and effective emergency planning." I have but two disagreements with this position: (a) The possible inference that the other Commissioners do not support those aspects. That, of course, would not be correct. I believe *all* support these factors as being vital to providing adequate protection to the public. (b) The use of the word "only." There are other items I would include (they might not be "time-tested engineering principles," but neither is emergency planning), such as use of human factors techniques to analyze control rooms and operating procedures and use of qualified and well-trained operating personnel.

Each of the factors, and many others, underlie our regulations, which will remain controlling.

(3) Commissioner Gilinsky charges that the Commission is on a course "toward allowing the several layers of protection to be traded off one against the other without limit." This is plainly wrong. I know I am not, and as fas as I can tell, neither is the Commission.

(4) Commissioner Gilinsky states "The Commissioner seems also to be counting heavily on a sharp reduction in the

'source term.' " As proof of this he mentions that a statement on siting "was retained in the document by only one vote." First, the *Commission* did adopt the statement. Second, Commissioner Gilinsky did not propose to include the siting statement—I did. I certainly am not counting heavily on a sharp reduction in the "source term," and have been critical of some in the NRC who have very high expectations for the new source term (the "Holy Grain"). Nevertheless, I do support the safety goal.

(5) ACRS ALARA—Commissioner Gilinsky's comment regarding the ACRS and the "as low as reasonably achievable" (ALARA) concept could be read as though the Commission rejected the ACRS advice on ALARA. However, the ACRS advised us *not* to apply that standard to plants currently operating or under construction. We accepted that advice. They did recommend that standard for future plants, advice we rejected. Frankly, I do not believe there will be any new plants proposed during the two-year trial period. Thus, I do not believe the current omission is significant.

(6) The question of a societal goal was debated heavily over the last two years. The NRC staff and participants in several workshops and public meetings struggled to establish individual and societal goals that were separately useful. The principle difficulty is to avoid having one be swallowed by the other. The proposed goals are not entirely satisfactory—but the purpose of a trial or pilot period is to test such ideas, see how they work, and to try to improve them.

(7) Commissioner Gilinsky describes core melt probability as being "downplayed." The safety goal philosophy does make it secondary—secondary to public health and safety. As the staff pointed out to the Commission, the NRC's mission is to protect the public, not the licensee. Consequently, our fundamental responsibility must be to prevent harmful radiation from reaching the public. It is the licensee's responsibility to ratepayers and owners to prevent plant damage. Certainly the NRC is concerned about core melt—greatly concerned. Preventing core melt prevents large offsite releases. However, we must go beyond that point and ask the "What if" questions. What if the core melts despite our best effort to prevent it? (Accidents *do* happen.) We have to be concerned about the systems that provide protection in the event the core melts (Commissioner Gilinsky has been the staunchest supporter of this, for example in his push for strong containments). Consequently we have, I believe correctly, treated core melt as subordinate.

Additional Views of Commissioner Asselstine

I support the issuance, for the purpose of further evaluation, of the Commission's safety goals policy statement. I believe that the careful evaluation of the safety goals policy statement as well as alternative safety approaches, as provided for in the proposed evaluation plan, represents a significant first step toward determining the feasibility of defining a set of safety goals that can serve as part of the basis for the Commission's regulatory and licensing decisions for nuclear power plants.

Although I support this first step, I believe that several aspects of the Commission's safety goals policy statement and the proposed evaluation plan deserve further comment.

Qualitative Safety Goals

With one exception, I support the elements of the qualitative safety goals contained in the policy statement. That exception provides that societal risks to life and health from nuclear power plant operation should be comparable to or less than the risks of generating electricity by viable competing technologies. For several years, the Commission has routinely performed a *general* comparison of the costs and benefits of alternative electric generating means in individual nuclear power plant licensing proceedings in fulfilling the agency's responsibilities under the National Environmental Policy Act of 1969. However, the Commission has acknowledged that the comparative element of the qualitative safety goals will require a more detailed, quantitative evaluation of the relative risks of nuclear and other competing electric generating methods. In adopting this element of the policy statement, the Commission has committed to undertake such a study unless some other organization is prepared to do so.

I do not support the Commission's decision to undertake such a study for several reasons. First, such a study will be very complex, time consuming and expensive. To appropriately make comparisons of the risk of competing electric energy technologies, all phases of the fuel cycles should be addressed for the different technologies. To do otherwise would unfairly bias the evaluation of comparative risks subjecting our safety goal to the charge on promotionalism.

Second, the uncertainties involved in quantifying the relevant risks, including calculations of the long-term risk for the disposal of high-level radioactive waste and uranium mill tailings and for global build-up of carbon dioxide, acid rain and the health effects of coal emissions, call into serious question our ability to make accurate risk comparisons. Given these factors, I do not believe that the conduct of a comparative risk study is a wise use of this agency's resources. In fact, I believe that similar considerations influenced the decision by the National Academy of Sciences to terminate a similar effort—the CONAES Risk/Impact Study. For these reasons, it does not appear to me that a comparative technology safety goal would provide a useful, reliable and accurate basis on which to regulate nuclear power plants.

Quantitative Design Objectives

Most of the disagreement over the safety goals policy statement, both in the Commission's discussions and in the comments submitted on the draft safety goals policy statement, has centered on the quantitative design objectives—a set of numerical expressions for individual risk, societal risk, large-scale core melt frequency, and cost-benefit comparisons that is included as part of the safety goals. As Commissioner Gilinsky indicates in his separate views, our Advisory Committee on Reactor Safeguards has proposed a number of alternative formulations of the quantitative design objectives. These alternative formulations include: retention of the as-low-as-reasonably-achievable (ALARA) concept for all future nuclear power plants; a separate design objective for the individual risk of fatal cancer due to nuclear power plant operation or accidents; the use of a smaller radius than 50 miles in calculating the societal risk of cancer from nuclear power plant operation and accidents as well as from other causes; and a cost-benefit design objective that includes consideration of the off-site economic costs of a nuclear power plant accident. I supported unsuccessful efforts to include some of these alternative approaches in the safety goals policy statement, and I proposed other elements, such as a cost-benefit design objective for the averted person-rems that would be associated with the cleanup of a nuclear power plant accident. However, a majority of the Commission did not favor these changes.

I do not believe that we now have the information to say with any real certainty that the alternative numerical design objectives proposed by the ACRS and others are inappropriate, or that the design objectives in the policy statement constitute a fair and complete reflection of the qualitative safety goals. Indeed, it appears clear that at least one other country proposes to use numerical design objectives (allowable frequency for large-scale core melt accidents) that are considerably more stringent than those contained in the safety goals policy statement.[1] Statements have also been made by officials of the Tennessee Valley Authority that the design objectives used by the TVA nuclear program (use of the as-low-as-reasonably-achievable concept) are more appropriate than those contained in the policy statement.[2]

Moreover, there may be an even more fundamental concern with respect to the numerical design objectives contained in the safety goals policy statement. That concern relates to use of the probabilistic risk assessment (PRA) methodology as a basis for determining whether the numerical design objectives are met in a particular case.

There appears to be a strong basis for believing that PRA can:

(1) Serve as a useful tool for better understanding of the dominant sequences and for taking advantage of plant operating experience;

(2) Provide a systematic way for examining the appropriateness of operating procedures, maintenance and testing practices, technical specifications and emergency procedures;

(3) Help identify weak areas in a specific plant that may constitute significant contributors to risk; and

(4) Provide information on generic and plant-specific risks that can be used to assess the adequacy and appropriateness of existing NRC requirements as well as the need for modifications to existing requirements or for new requirements.

However, our Advisory Committee on Reactor Safeguards and others have warned that present uncertainties associated with the PRA methodology and with the existing PRA assessments for specific plants make PRA an unreliable basis for making judgments on the overall risk posed by specific plants or by nuclear power plants in general. Thus, to the extent that they depend on such "bottom line" risk assessments, the quantitative design objectives contained in the safety goals policy statement may represent an unreliable and inappropriate basis for making regulatory decisions.

In order to address these concerns, the Commission has agreed to a two-year evaluation period to asses the effects that would result from applying the safety goals and numerical design objectives as well as the alternative design objectives that have been proposed by the ACRS and others. I believe that such an evaluation process is essential to our informed judgment on the appropriateness of both the numerical design objectives contained in the policy statement and the alternative design objectives that have been proposed. I also believe that the evaluation period will provide useful insights on the uncertainties associated with PRA methodology as it would be used in conjunction with the safety goals and design objectives—insights that are needed to reach a decision on the feasibility of the safety goals approach and its elements.

Until the evaluation process has been completed and understood, the Commission has determined that neither the qualitative safety goals nor the numerical design objectives will be used as a basis for any regulatory decision. Thus, the Commission's present regulatory program, including such elements as the as-low-as-reasonably-achievable (ALARA) concept, remains the exclusive basis for reaching safety decisions for nuclear power plants. Given these factors, I believe the Commission's decision on the safety goals policy statement and evaluation plan represents a careful and deliberate step toward exploring the potential benefits and pitfalls of the use of quantitative safety goals in the NRC's regulatory decision-making for nuclear power plants.

Plan To Evalutate the Commission's Safety Goal Policy Statement

A. *Purpose.* This document provides the plan to evaluate the Commission's safety goal policy statement. The purpose of the plan is to outline (1) a description of how the safety goals will be evaluated as a factor in arriving at regulatory decisions, (2) the general approach to be used in developing the data and information needed to evaluate the usefulness of the safety goals in regulation and licensing, and (3) how the results of using the safety goals will be assessed at the end of the evaluation period.

One of the primary goals of this evaluation program is the development of an implementation plan at the conclusion of the evaluation period. That implementation plan would prescribe how final safety goals and numercial design objectives would be used in the regulatory process. The evaluation program will also include efforts to develop any revisions to the preliminary safety goals and design objectives that are show to be necessary during the evaluation period.

The first phase of the evaluation period will begin with the publication of the proposed evaluation plan for public comment for a 90-day period. During this period, it is expected that preliminary information on new radiological source terms will become available and the staff will examine the effects that this information will have on comparison of risk estimates with the proposed design objectives for individual and societal mortality risks. At the end of the public comment period the staff will assess the comments received on the evaluation plan, as well as the impact of the new source term information, and will prepare a report to the Commission. The overall time for the first phase is expected to be about 6 months. During the second phase of the evaluation period expected to be about 18 months, the staff will conduct a limited evaluation of the safety goals and design objectives and their potential use in the regulatory process. It is anticipated that additional information on radiological source terms will become available during this second phase, and this new information will be factored into the staff's evaluations after review and approval by the Commission.

B. *Scope.* The qualitative safety goals and quantitative design objectives contained in the Commission's Policy Statement will not be used to make regulatory decisions during the evaluation period. However, the NRC has used and plans to continue using probabilistic risk assessments (PRA) to better understand the risks of various safety issues. The quantitative safety goals will be evaluated, where the PRA methodology is generally accepted, with regard to existing regulatory requirements, proposed new regulatory requirements, research priorities, prioritization and resolution of generic safety issues, and the relative safety importance of issues as they arise. These analyses will also provide information regarding the timing of implementation of any new requirements and the relative merits of alternative approaches. The safety goal will be evaluated using the results of PRA on selected plants where PRA information is already available. However, regulatory decisions on the need to backfit plants as the result of this evaluation are inappropriate.

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[1] "Britain's Approach to the PWR Stresses Safety and Reliability," by B.V. George and D.E. Hilsley, *Nuclear Engineering International*, December 1982.

[2] The Knoxville *News Sentinel*, January 12, 1983.

The safety goal design objectives will also be evaluated using the following generic issues to gain hands-on experience; however, the safety goal will not be a factor in resolution of the issues during the evaluation period. These issues will include the following:

(1) ATWS rule (RES)

(2) Pressurized thermal shock of pressure vessels (USI A–49) (NRR)

(3) Siting policy or rulemaking, after new radiological source terms are available (RES)

(4) Severe accident policy or rulemaking (RES/NRR)

(5) Station Blackout (USI A–44) (NRR)

(6) Decay Heat Removal (USI A–45) (NRR)

(7) Reconsideration of Emergency Response (RES)

The safety goal design objectives will also be evaluated during the evaluation period by examining selected existing requirements. The purpose of this reexamination is to gain hands-on experience with the safety goal; however, regulatory decisions will not be based on this reexamination. Examples of such issues which may be reexamined are the reliability criteria for the auxiliary feedwater system of FWRs and the requirement to combine seismic and LOCA loads in the design of structural and mechanical components and their supports.

In order to address that aspect of the safety goal concerning a comparison of the operation of nuclear power plants to the risks of generating electricity by viable competing technologies, the staff, within 60 days of publication of the safety goal, will survey other organizations and government agencies to determine their interest in conducting such a comparative study. If no agencies commit to performing such a study, the staff, within 120 days of publication of the safety goal, will issue a request for proposal to complete such a study with the objective of contact issuance within 180 days of publication of the study goal. The staff will keep the Commission fully informed on the progress of the above efforts.

C. *General Approach To Be Used.* The design objectives in the policy statement include the risks from routine emissions, normally expected transients and low consequence accidents, design basis accidents, and accidents which might melt the core. Compliance with Appendix I to Part 50 assures that the risks for routine emissions are small; therefore, they need not be analyzed either generically or on a plant-specific basis to demonstrate conformance with the safety goals. Also, compliance with current regulations (principally Parts 20, 50, and 100) generally provides adequate protection against the risks from anticipated transients and low consequence accidents as well as design basis accidents; therefore, these need not be analyzed to demonstrate conformance with the safety goals. Thus, to evaluate the safety goal policy statement during the evaluation period, this action plan will focus on the risks from accidents involving potential core-melt.

An early step in evaluating the policy statement will be for the Office of Nuclear Regulatory Research (RES) to collect available information on PRA studies and prepare a reference document that describes the current status of knowledge concerning the risks of plants licensed in the U.S. It is essential that a reference document be prepared and receive peer review so that the staff, licensees, and public have a common base of information on the dominant contributors to the probability of core-melt and to the public risk due to radiation from serious nuclear accidents, the strengths and weaknesses of current plant designs and operations, and the usefulness of PRA and the safety goals in assessing such strengths and weaknesses.

This reference document will assess the uncertainties associated with estimates of core-melt probabilities and radiological consequences and will attempt to provide guidelines on how these uncertainties should be treated. It will also assess the uncertainties associated with making relative risk assessments compared to absolute risk assessments; and it will address the uncertainties in assessing the risks from external events (seismic and flood), and from fire, compared to the uncertainties of assessing risks from internal accident initiators (equipment failure and operator errors).

The reference document will include an assessment of procedures used for these PRA studies and their impact on the validity of the results, as well as a discussion of when it is appropriate to consider the risks from external events such as earthquakes and floods, the likely magnitude of such risks, and how one should evaluate such risks in light of the large uncertainties involved. It will also identify those areas of plant design that appear to be most amenable to possible improvement, including insights that have been gained with regard to the desired and achievable reliability of systems and components important to safety. Significant new information developed in the preparation of the reference document will be reported to the Commission, as well as the final reference document itself.

In parallel with the development of this reference document, the staff will begin evaluating the safety goal quantitative design objectives in some of the areas identified in Section B to begin developing a base of hands-on experience. In evaluating the benefit-cost guideline, the $1,000 per person-rem averted will be in 1983 dollars, and it will be modified in reflect general inflation in the future. Both the benefits (reduction in estimated public exposure) and the costs will be assessed for the remaining lifetime of the plants.

The staff will evaluate the safety goal in the area of reliability of systems and components important to safety.

Because of the present uncertainties in analyzing the risk from external events, care will have to be taken with regard to any apportionment of the design objectives between external and all other (internal) accident initiators. This subject will be addressed in the reference document. Substantial research is now underway to develop more effective techniques to analyze the probability of core-melt and the risk from external events. When this is completed, PRA will be used to determine generically whether the risk attributable to external hazards is large enough to warrant routine consideration in safety goal decisions.

PRAs will be performed using realistic assumptions, and the estimates normally will be based on median values after propagating uncertainty distributions. Also, the analyses will include as good an estimate as is feasible of the magnitude and nature of uncertainties, including differences between median and mean estimates, together with sensitivity analyses for certain parameters important to risk. It is the intention that conservatisms will be explicitly expressed in the decision rationale, rather than be buried in the risk analyses.

One way to improve the consistency of PRA results is to provide some reasonable assurance that analysts follow equivalent procedures, make similar assumptions, treat phenomena consistently, and utilize a common data base. NRC has developed reasonably prescriptive guidance on how to conduct a PRA, drawing upon the Integrated Reliability Evaluation Program (IREP) and the work of the ANS/IEEE. Such standardization is highly desirable for effective use of the safety goal design objecties.

D. *Proposed Relation to Regulatory Decision Process.* In evaluating proposed new regulatory requirements and assessing the need for regulatory action on safety issues that arise, the staff will evaluate the use of safety goals; however, during the evaluation period the safety goals will not be a factor in making regulatory decisions. The weight to be given the safety goal after the evaluation period will depend on many considerations. One important consideration will be the quality of the PRA information, including the source of the analysis, the methods and data used, and the extent of peer review it has received. Insofar as possible, the staff members most familiar with the PRA and its limitations will be consulted in the decision process. This staff input will provide an essential perspective to those who must consider the PRA information and weigh its importance in making a decision.

Other factors in making decisions after the evaluation period will include the uncertainties surrounding the PRA analyses, engineering judgment, the acceptability of safety tradeoffs implicit in the decision, and the applicable regulatory requirements. The staff believes that the above, coupled with the scrutiny given PRAs by the industry, the NRC staff, NRC management, the ACRS, and other experts will provide sufficient controls to avoid abuse of the use of PRAs and safety goals in regulation; but this judgment will have to be further evaluated during the evaluation period.

Because of the uncertainties inherent in PRAs one must be cautious in making absolute comparisons between a risk estimate for a plant and one of the safety goal design objectives. If, for example, such a comparison indicates that a design objective is not met, one would expect the next step would be to examine the underlying technical reasons. It could be that such an examination would reveal that an existing regulatory requirement is not met, in which case the appropriate regulatory action would be to focus on the improvements in the plant needed to meet the regulatory requirement. In other cases it may reveal a gap in our requirements, in which case appropriate actions may be needed to amend the regulations, depending on the safety benefits and the costs of the proposed actions. The timing of any corrective actions, if needed, would depend on factors such as the estimated magnitude of the risks involved, the need for power, the number of plants involved, the cost of replacement power, and the available industry and NRC resources.

It is expected that the initial focus in using the safety goal after the evaluation period will be on the design objective on core-melt frequency. Estimates of public risk will be performed if the core-melt design objective is exceeded, or a risk-important accident sequence is dominant. During the evaluation period, estimates of public risk will be performed even if the core-melt objective is not exceeded in order to gain hands-on experience. The importance of mitigating the consequences of a core-melt accident is fully recognized, and the staff will continue to emphasize features such as containment and emergency planning as integral parts of the defense-in-depth concept.

Where significant, occupational exposures would also be a consideration in any decision whether to make safety improvements. Such considerations would include any increased exposures accrued during plant modifications and any incremental increases (or decreases) subsequently required to maintain the plant. However, it is not clear whether occupational exposures would be given the same weight in decisions as would public exposures. One consideration that is important is that the occupational exposure incurred as a result of any imposed new requirement is a real impact with a small uncertainty band, whereas averted public exposures are calculated probabilistic numbers with large uncertainty bands. In at least one case the staff will include averted occupational exposure as one of the benefits in the cost-benefit evaluation. These factors will be assessed during the evaluation period.

A paramount consideration in evaluating the use of PRAs and the safety goals is that one must be sensitive to the "bottom-line risk" syndrome. The principal benefit of PRA, considering the present state-of-the-art, is to identify strengths and weaknesses in plant design and operation, not to calculate accurate, absolute risk numbers. Therefore, the primary application of PRA information during the evaluation period will be to compare the results and evaluate insights gained from the spectrum of PRA analyses done to date, which will be summarized in the reference document.

E. Assessment of Results at End of Evaluation Period. At the end of the evaluation period the staff will assess the information gathered on PRAs contained in the reference document, together with the hands-on experience gained in evaluating the safety goals to make recommendations to the Commission regarding the use of safety goals in regulation or licensing and any changes in the safety goals. This assessment will include:

1. A comparison of existing plant-specific PRAs with the design objectives.
2. A discussion of situations where PRAs and the design objectives might have provided a useful perspective for decisions, and where their use would not have been very beneficial.
3. The impact of any changes in source term assumptions on the safety goals, including whether the design objectives should be change.
4. An evaluation of the need for proposed guidelines as to actions to be taken when one or more plants are estimated to exceed one or both of the public risk design objectives and/or the core-melt design objective. For example, should operating levels or limits be established; and, if so, what should they be?
5. Judgments regarding the methodology for containment performance assessment and whether a containment performance design objective would be useful. If so, what should be the recommended design objective(s)?
6. The influence of occupational exposures or other factors on decisions after the evaluation period.
7. Judgments regarding the methodology that should be used to perform PRAs to enhance their use in the regulatory process.
8. For any future plant-specific applications, an evaluation of alternatives as to how conformance with the individual risk guideline should be assessed for situations where no one lives within one mile of the site boundary
9. Whether a single monetary value of averted person-rem is an appropriate and useful way to implement the benefit-cost guideline. If not, what might be more appropriate?
10. An assessment of whether the design objectives for societal cancer risk should consider the population within 50 miles, as proposed in the policy statement, or some other distance from the plant.

Careful attention will be paid to mangement of the various activities during the evaluation period. Toward this end the staff will do the following:

- Establish appropriate tasks and milestones (Ref. Section F) in the FY 83–85 EDO and Commission Program Planning and Guidance documents and in office Operating Plans.
- Establish a Steering Group which will include, as a minimum, management level representatives from the EDO, NRR, RES, IE, ELD, and OPE. The staff will maintain close involvement with the ACRS during the evaluation period.

- Provide appropriate reports to the Commission including the reference document, an assesment of substantive public comments received, and recommendations on any mid-course corrections that appear warranted.

F. Highlight of Future Staff Actions. The following summarizes the action items required to evaluate the safety goals and develop improved technical implementation guidance during the evaluation period. Information gathered during the evaluation period will be evaluated by the staff to assist in any subsequent recommendations to the Commission regarding the future role of PRA or the safety goals in regulation or licensing.

1. Prepare a report to the Commission that summarizes and evaluates the public comments received on the proposed evaluation plan. (EDO)—Mid-1983.

2. The staff, within 60 days of publication of the safety goal, will survey other organizations and government agencies to determine their interests in conducting a study of the comparison of the operation of nuclear power plants to the risk of generating electricity by viable competing technologies. If no agencies commit to performing such a study, the staff within 120 days of publication of the safety goal will issue a request for proposal to complete such a study with the objective of contract issuance within 180 days of publication of the safety goal. The staff will keep the Commission fully informed of the progress of the above efforts. (EDO)— 60 days; 120 days; 180 days.

3. Prepare a reference document that evaluates existing PRAs to: assess the dominant accident sequences; identify and rank safety systems and components as to their risk importance; evaluate how the risks from external events should be weighed in the decision process; estimate the magnitude, direction, and risk significance of uncertainties; and assess lessons learned with regard to strengths and weaknesses of various methodologies and procedures. (RES)—Early 1984.

4. Provide appropriate reports to the Commission regarding evaluation of the safety goal, such as the reference document, evaluation of public comments, and any recommended mid-course corrections that might appear to be warranted. (EDO)—1983–85.

5. Improve the quality and review of PRAs by developing a review plan for PRAs, consensus on the methodology for assessing the performance of all types of containments, and guidance on the assessment of the risks of external events. (NPR/RES)—1983–85.

6. Evaluate the safety goals:

a. Prioritize generic safety issues (NRR)—Early 1983.

b. Evaluate proposed new requirements that are amenable to assessment by PRA (RES/NRR)—1983–85.

c. Prioritize research in areas amenable to assessment by PRA (RES)—1983–85.

d. Develop and begin to implement a plan to assess existing requirements to determine whether some aspects need changing (RES)—1983–85.

e. Begin to develop risk-based reliability criteria for systems and components most important to safety (NRR/RES)—1983–85.

f. Begin to develop a methodology to prioritize selected reactor inspection procedures and to assist decision-making on the issuance of circulars, bulletins, and orders related to generic issues (IE)—1983–85.

7. Make recommendations at the end of the evaluation period for the future use of safety goals in regulation and licensing, including: policy changes based on the experience gained; further guidance regarding implementation; any action guidelines felt to be warranted to assist decision-making as to whether new requirements should be implemented or existing requirements waived, and the timing of implementation of new requirements; application of the safety goals to operating reactors and licensing, e.g., the use of operating limits; and the effect of new developments, such as revised radiological source terms, on the implementation of the safety goals. (EDO)—Early 1985.

48 FR 16013
Published 4/13/83

10 CFR Part 50

Proposed Commission Policy Statement on Severe Accidents and Related Views on Nuclear Reactor Regulation

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of proposed Commission Policy Statement.

SUMMARY: This proposed Policy Statement summarizes the changes in rules, policies, and regulatory practices that constitute the NRC approach for severe accident rulemaking. The new approach as presented in the Policy Statement would, for all classes of existing or proposed nuclear power plants, replace unfocused, long-term generic rulemaking with: (1) Severe accident rulemakings designed to certify future standard plant designs and (2) regulatory decisions based on generic evaluations and decisions regarding all existing or proposed plants for which the standard plant rulemaking would not apply. The Policy Statement is presented in proposed form to provide all affected nuclear power plant licensees and applicants and other interested persons an opportunity to comment.

DATES: Submit comments by July 9, 1983. Comments received after that date will be considered if its is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date.

ADDRESSES: Submit comments, suggestions, or recommendations to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Branch. Copies of comments received may be examined in the NRC Public Documents Room, 1717 H Street NW., Washington, D.C.

FOR FURTHER INFORMATION CONTACT: Roger J. Mattson, Director, Division of Systems Integration, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone (301) 492-7373.

SUPPLEMENTARY INFORMATION: The U.S. Nuclear Regulatory Commission published "The Advanced Notice of Rulemaking" in the Federal Register on October 2, 1980 [45 FR 65474]. In that notice, the Commission indicated that a long-term rulemaking effort was being initiated that would establish policy, goals, and requirements relating to core-melt accidents greater than the present design basis accident and invited public comment on proposals for treating severe accident issues. This Policy Statement summarizes the changes in rules, policies, and regulatory practices that constitute the NRC approach for severe accident rulemaking. The new approach would, for all classes of reactors, replace an unfocused, long-term generic rulemaking effort with severe accident rulemakings designed to certify specific standard plant design applications and with regulatory decisions based on generic evaluations and decisions regarding other classes of operating plants, plants under construction or proposed plants. It is expected that this approach would fully resolve the severe accident safety issues in the course of these rulemakings on specific standard plant designs and regulatory decisions on other classes of existing or future plants which may, or may not, include rulemaking. The Policy Statement proposes that final decisions on severe accident considerations for operating plants and plants under construction be accomplished in parallel with the standard plant reviews.

Proposed Commission Policy Statement on Severe Accidents and Related Views on Nuclear Reactor Regulation

I. Introduction: History and Purpose of the Policy Statement
II. Proposed Policy on Safety Goals
III. Use of Probabilistic Risk Assesment in Severe Accident Decisionmaking
IV. Lessons Learned from Three Mile Island
V. Standard Review Plan
VI. Standardization Policy
VII. Further Research on Severe Accidents
VIII. Treatment of Severe Accidents in Ongoing Licensing Proceedings
IX. Present Views on Other Safety Issues and Efforts in Progress
X. Implementation Guidelines for Severe Accident Policy

I. Introduction: History and Purpose of the Policy Statement

The Nuclear Regulatory Commission mandated a series of changes in design and operation of nuclear power plants as a response to deficiencies revealed by the accident at Three Mile Island (TMI). The changes began with the operating Babcock and Wilcox plants and then the other operating plants. Later, the Commission set requirements for plants whose operating license (OL) review had been interrupted by the attention paid to operating plants. Still later, a separate set of requirements was developed for plants whose construction permit (CP) review had been interrupted. This last set of requirements, embodied in the Construction Permit/Manufacturing License Rule (hereinafter, the CP Rule) was published in effective form on January 15, 1982 (47 FR 2286).

In this Policy Statement, the Commission describes its policy and requirements for new CP applications and reactivated CP applications, and the Commission reiterates and discusses its present requirements with respect to accidents more severe than design basis accidents. We connect all of these requirements to our "Proposed Policy Statement on Safety Goals for Nuclear Power Plants" (48 FR 10772, March 14, 1983); to our standardization rules; and to other policy guidance under development such as siting policy. Although gascooled or other types of advanced reactors may be proposed in the future, they have not been considered in the development of this policy statement. Some of the policy points would apply to such plants; others would not.

As part of the Commission's response to TMI, an Action Plan (NUREG-0660, May 1980) was issued. Section II.B of that plan deals with the siting of plants and the requirements for coping with severe accidents. Consistent with that plan, the Commission has already issued one final and one proposed interim rule concerning hydrogen control issues in degraded core cooling (46 FR 58484, December 2, 1981, and 46 FR 62281, December 23, 1981). The concept of a generic rulemaking to reach final decisions on severe accidents also took form in the TMI Action Plan, Task II.B.8, "Rulemaking Proceeding on Degraded Core Accidents." This plan envisioned a long-term rulemaking extending beyond 1982 to establish policy, goals, and requirements related to accidents involving core damage greater than the present design basis for all classes of reactors: those operating, under construction, proposed for construction, or proposed as new standard plant designs. The task also included the interim step of an Advanced Notice of Rulemaking, issued on October 2, 1980 (45 FR 65474).

The presently proposed Policy Statement replaces this advanced notice of rulemaking. It represents a change from the envisioned plan for long-term rulemaking covering all classes of nuclear power plants in that the focus of rulemaking would, if adopted, be reduced to only one class of plants, namely, those proposed as new standard plants designs. However, the proposed Policy Statement provides the current views of the Commission on the process for arriving at severe accident decisions for operating plants, those under construction, or proposed for construction for which standard plant rulemaking would not apply.

For the reasons discussed below, the Commission believes that nuclear power plants of modern designs (such as those proposed in CP applications docketed after the promulgation of the Standard Review Plan or now under consideration by U.S. vendors for future sales) can be shown to be acceptable for severe accident concerns if they meet the requirements of the CP Rule; if they achieve a technical resolution of Unresolved Safety Issues; and if they are adequately responsive to insights afforded by probabilistic risk assessments. This conclusion embodies due consideration of the Commission's Policy Statement on safety goals. It permits plants of modern design to be sited at locations with demographic and other safety-related characteristics that conform to our siting regulations and guidance. Further discussion of siting policy revision is found in Section IX of this Policy Statement.

As discussed below, our policy for the consideration of severe accidents contains nine interelated components: (1) Policy Statement on safety goals; (2) use of probabilistic risk analysis in severe accident decision making; (3) lessons learned from TMI; (4) the Standard Review Plan; (5) standardization policy; (6) further research on severe accidents; (7) treatment of sever accidents in ongoing licensing proceedings; (8) present views on other safety issues and efforts in progress; and (9) implementation of severe accident policy.

In accordance with the activities, views, and policy developments discussed in this Policy Statement, the Commission believes that it is possible to begin reviews of specific standard plant design applications with an expectation of fully resolving the severe accident questions in the course of the review. This belief is predicated on the availability of results from ongoing NRC, Industry Degraded Core Rulemaking (IDCOR), and vendor research; and insights from the Zion, Indian Point, and other risk assessments. The review of standard designs for future CPs provides incentive to industry to address severe accident phenomena. These reviews and ongoing research will also provide information needed for final decisions on severe accident considerations for operating plants and plants under construction. We expect to reach those final decisions within the next several years.

A three-step process will be used for severe accident decisions for plants in operation, under construction, or other classes of plants proposed for construction for which standard plant rulemaking would not apply. First, quantitative risk assessment techniques will be used to estimate the relative importance of potential nuclear power plant accident sequences or other features where sufficient data exists to make comparisons.

We do not plan for additional probabilistic risk assessments (PRAs) to be generated for this purpose. The existing ensemble of available PRAs (presently about 13 in number), will be normalized by updating of accident likelihood predictions and by recalculations of accident consequences using revised source terms currently being evaluated by the NRC staff. This approach will provide better understanding of the design features and site characteristics that are more favorable or less favorable to various risk contributions relative to the plants in the ensemble. Second, a range of possible design and operational changes to improve accident prevention and consequence mitigation capabilities will be studied to determine the costs and safety benefits of backfitting them to plants in operation or under construction. Finally, using engineering and policy judgment, supplemented by probabilistic risk assessment where apppropriate, decisions will be made on whether reductions in severe accident risk are necessary. If reductions are necessary, our research should tell us how best to achieve them, whether by accident prevention or consequence mitigation, or by what balance of the two. We will also be able to decide whether the costs for various safety improvements are justified. Particular attention will be paid in these studies to areas of plant safety and safeguards where quantitative risk assessment techniques provide no guidance, or at best guidance of great uncertainty. Examples are resistance to sabotage or to massive external events such as earthquakes.

Our current general licensing policy and outline of future activities and schedules for severe accidents are treated in more detail below. Especially important for decisions on operating plants and plants under construction is their connection with severe accident research as described below.

II. Policy on Safety Goals

The Commission published a policy statement on safety goals for the operation of nuclear power plants in the Federal Register on March 14, 1983 [48 FR 10772]. The policy statement contains qualitative safety goals and quantitative design objectives which are intended to be consistent with the qualitative goals. The Commission also announced the start of a two-year period of evaluation for the policy statement in March, 1983. During the evaluation period, the qualitative safety goals and quantitative design objectives will not be used in the licensing process or be interpreted as requiring the performance of probabilistic risk assessments by applicants or licensees (see Part III). Rather, the NRC will continue to use conformance to regulatory requirements as the exclusive licensing basis for plants. Use of the policy statement during the evaluation period will be limited to uses such as examining proposed and existing regulatory requirements, establishing research priorities (see Part VII), resolving generic issues (see Parts IX, X), and defining the relative importance of issues as they arise. At the conclusion of the evaluation period, the Commission will consider if any revisions are necessary before the issuance of a final policy statement and a plan for its implementation.

III. Use of Probabilistic Risk Assessment in Severe Accident Decisionmaking

Probabilistic risk assessment is a process that can be used to supplement the current deterministic approach for reviewing design and operation of a nuclear power plant. It provides an integrated assessment of the relative importance of potential accident sequences and helps identify the weaknesses in plant design and operation that contribute to the most importance accident sequences. Many PRAs of U.S. nuclear power plants have been made since two plants were analyzed and reported in the Reactor Safety Study (WASH-1400). These PRAs include risk assessments done under the NRC's Reactor Safety Study Methodology Application Program (RSSMAP) and the Interim Reliability Evaluation Program (IREP), as well as a number of industry studies (Big Rock Point, Limerick, Zion, and Indian Point).

A continuation of IREP has been designated the National Reliability Evaluation Program (NREP). In the future, NREP may be implemented on other operating plants within the United States, individually or in groups, using a standard methodology emanating from IREP or the NRC and industry forum on PRA procedures sponsored by the Institutes of Electrical and Electronics Engineers (IEEE) and the American Nuclear Society (ANS).

Thus far, the PRAs of nuclear power plants have varied in scope, depth, and quality; but, taken as a whole, they indicate measurable growth in the constructive use of the techniques of PRA to develop supplements to current regulatory practice. They lead us to conclude that PRA improves our unstanding of the severe accident sequences to which plants are most vulnerable and therefore of the dominant constituents of the risk posed by specific plants. In sum, considering the experience with risk assessments thus far made, we conclude that the cost-effectiveness of risk reduction measures can be studied through PRA. Although there are limitations due to the many uncertainties associated with the use of PRA, the Commission considers it to be a valuable adjunct to the established regulatory process and NRC's reactor safety regulations in 10 CFR, Chapter I.

Some of the previous risk assessments have identified new equipment that, if added, and specific plant features that, if modified, have a high potential for risk reduction. Such features typically involve details of system design and operation and not the more fundamental and costly aspects of design. Some examples of details of system design and operation are discussed in Sections VIII and IX of this Policy Statement.

It is our judgment that the utility of PRA can be improved if it is integrated with the design process. To take advantage of this improved use of PRA, the Commission will require the performance of a PRA that is as complete as practical for any standardized design to be referenced in future CP applications. The purpose of these PRAs is twofold: to encourage the development of an effective reliability and risk management program beginning at the design stage and to determine if there should be additional regulatory requirements imposed because of insight gained from the PRA before issuance of a license referencing that design. We believe that such studies can help to identify design features that would lessen the likelihood of degraded-core-cooling events (accident prevention), arrest the extent of damage by successful interdiction of a degraded-core-cooling event (accident management), or lessen the ensuing consequences of a core meltdown (consequence mitigation). We expect that PRA can help to illuminate those design requirements that are practical and that can make a significant, cost-effectiveness contribution to risk reduction. Our regulations already require for near-term CPs that PRA be factored into the design process shortly after CP issuance. Thus, our policy for new CP applications referencing standardized designs is simply to require that the PRA and associated reliability engineering programs be performed earlier in both the design and regulatory processes than is now the case. The specifics our standardization policy are discussed more fully in Section VI of this Policy Statement.

We emphasize that PRA is only one of several tools to be used in making backfit decisions for plants already licensed and in developing safety rulemaking for future standardized designs. We also caution that although we intend to encourage broad uses of the PRA methodology in regulatory decisionmaking—including severe accident analysis in operating nuclear power plants—we do not expect to develop widespread requirements for compliance with any numerical safety goal design objectives that might be approved for individual licensing reviews until refinements in PRA methodology make it more appropriate for this purpose. Some discussions of provisional numerical guidelines and PRA methodology will emerge in certain licensing hearings where PRAs have been required (e.g., OL applications for plants in high population density sites and new CP applications).

IV. Lessons Learned From Three Mile Island

The lessons learned from TMI have been applied to operating plants, plants in operating license review, and plants now undergoing construction permit review. The lessons are summarized as licensing requirements for operating plants and plants under construction in "Clarification of TMI Action Plan Requirements" (NUREG–0737, November 1980). The Commission's policy for pending CP applicants is that they comply with the CP Rule (47 FR 2286, January 15, 1982). It is our policy that future CP applications or reactivations of CP applications previously docketed also comply with the CP Rule.

Since effective implementation of the actions summarized in NUREG–0737 and the CP Rule have significantly upgraded nuclear power plant safety, a deliberate approach to decisionmaking is described in Section X of this Policy Statement.

V. Standard Review Plan

On March 18, 1982, the Commission announced the issuance of a rule (47 FR 11651) that requires future applicants for operating licenses, construction permits, manufacturing licenses, the preliminary or final design approvals for standard plants to identify and evaluate differences from the acceptance criteria of the applicable revision of the Standard Review Plan (SRP) as part of the technical information to be submitted as part of an application. The SRP was originally issued in 1975 with the most recent revision being issued in September 1981 (NUREG–0800).

The SRP describes acceptance bases and criteria for conclusions which are presented in a staff Safety Evaluation Report (SER). Although conformance with the SRP is not a regulatory requirement, the acceptance criteria of the SRP provide for greater stability in the licensing process and, in a growing number of areas, also provide quantitative guidance for ensuring safe performance of a plant. The lessons learned from TMI have also been incorporated into the SRP. Accordingly, the strengthening of the SRP and procedures for its application reduce the urgency for final decisions on severe accidents for plants under construction. Moreover, SRPs provide a useful fiducial for considering new safety requirements for the next generation of plants. Hence, staff review against the SRP is an important part of the network of assurance needed on the acceptability of new plants.

VI. Standardization Policy

On August 31, 1978, the Commission issued a policy statement, "Statement on Standardization of Nuclear Power Plants,"[1] that expanded on the standardization concept for nuclear plants and described specific policy changes being made to improve the usefulness of the Commission's standardization program (43 FR 38954). That policy statement, among other things, defines the effective time periods for design approvals under each of the four standardization concepts: (i) The reference system concept; (ii) the duplicate plant concept; (iii) the manufacturing license concept; and (iv) the replicate plant concept.

The Commission reiterates its support for standardization. To this end, holders of, and applicants for, Preliminary or Final Design Approvals should modify their applications to take into account the guidance of this Policy Statement if the design approvals are to be used in future CP applications. The requirements to be met are enumerated in Section X of this Policy Statement. We expect to complete our reviews within a year or two such applications. In the interim until a severe accident review is completed and a new design approval is granted, a standard design with an approval granted pursuant to present Commission regulations must be updated in order to be referenced in new or reactivated CP applications by showing that it meets the new CP Rule, and an application must be filed for a severe accident review pursuant to the requirements of Section X, below.

When reviewed by the staff and approved in rulemaking, the Commission expects that the approval of the standardized designs for referencing in future CP applications would be binding on both the staff and applicants for a period of ten years unless significant new safety information becomes available. Design changes considered in response to this new information would be reviewed to ensure that risk reduction is cost-effective before initiating further rulemaking to incorporate the changes. Regulatory or national standards issued subsequent to the approval of a standardized design (e.g., later editions of the ASME Code) may be proposed by applicant and used when agreed to by the staff in lieu of or in addition to those referenced if commercial practice makes it desirable.

Ten-year referenceability of approved designs appears to be a reasonable choice in view of the long lead times experienced in the past five to ten years in effecting significant design improvements; further, it is a time span consistent with practical use of standardized designs.

The Commission intends that approval of standard designs in accordance with Section X, below, be accomplished by rulemaking in accordance with 10 CFR Part 50, Appendix O, Section 7. Applicants seeking this course will be given priority over applicants for new custom plant approvals in the assignment of staff review resources.

The Commission acknowledges the importance of having final design information. This may require essentially an FDA-level of design detail for the nuclear steam supply system (NSSS) and for a substantial portion of the balance-of-plant (BOP) equipment before successful completion of a PRA for a standardized plant. It may be possible to compensate for lack of design detail by providing appropriate interface performance specifications. To conserve resources in the conduct of licensing reviews, the Commission will give priority, at the time of docketing, to standard plant applications for which a substantial portion of the NSSS and BOP design has been completed.[1]

Standardization policy will be more effective in achieving its objectives when coupled with regulatory reform initiatives for amending NRC regulations to provide for early and separate approvals of sites; for early and separate approvals of standardized nuclear power plant designs, including the balance of plant to the extent practicable; and for one-step licensing in cases using standardized whole-plant designs.

VII. Further Research on Severe Accidents

The Commission is conducting a research program on severe accidents. This program complements the IDCOR program of industry (see below) and it includes studies on the following:

- Probabilistic risk assessment methods, including those treating external events;
- Common-cause accident contributors;
- System interactions, including analysis of systems transients involving core damage;
- Accident management, including guidelines for recovery from a core damaging event;
- Phenomenological research on fuel and fission product behavior of damaged cores and containment response to severe loadings;
- Human factors;
- Applications research on behavior of existing systems and components in the severe accident environment;
- Fission product release and transport; and
- Safety-cost tradeoff analysis of changes in hardware.

Among other things, the research is intended to reduce the substantial uncertainty in the risk calculations that would be used in implementing our safety policy. A basic problem to be addressed by the research program is that the uncertainty in the "front end" of PRAs (the likelihood of various accident sequences) is currently believed to be optimistically biased due to (a) possible lack of completeness in identifying all possible scenarios and describing their event sequences and (b) difficulties in identifying and modeling common-cause failures. However, the "back end" (consequence estimation) of risk assessment, is currently believed to be conservatively biased because of two basic assumptions. First, the partial failure of core cooling is usually assumed to result in total core melt. Second, recent research (see NUREG-0772) indicates that radioactive releases in dominant accident sequences are likely to be substantially lower than predictions based on the conservative assumptions in current licensing requirements or the assumptions in WASH-1400. These conservatisms concern the plateout of fission products in the primary system and the fallout of airborne radionuclides inside containments. These biases interfere with the usefulness of PRA for weighing the relative merits of different design or operating features. Research is needed to reduce the interference.

Our research program on severe accidents has two distinct phases. The first phase (scheduled for completion in early 1984) is designed to answer the necessary technical questions before final regulatory decisions on severe accidents are made. The objectives of Phase I (see Draft NUREG-0900, "Nuclear Plant Severe Accident Research Plan") are to provide the following:

- An improved methodology for probabilistic risk assessment plus a significant extension of the data base for severe accident assessment;
- Data for a better estimate of the radiological source term used to assess accident consequences; and
- A technical basis for regulatory decisions to add or modify principal design features and operating guides and procedures of existing plants with respect to their ability to prevent and mitigate severe accidents.

In Phase II (to be completed by the end of calendar year 1985), the objectives of the program are to complete development of the data base, to further improve PRA methodology and its applications, and to confirm and render more precise the bases for regulatory decisions and guidance. Of particular importance to rulemaking on standard plant designs for future applications is that the first phase of severe accident research will enable a more precise appraisal of specific design and operational refinements, especially from the standpoint of cost-effectiveness or risk/net benefit criteria. This will serve to indicate whether further reduction of risk is justifiable. In addition, better understanding of the dominant severe accident sequences and of the magnitude of radioactive releases in the first phase of the research is expected to lead to substantial improvements in emergency preparedness and procedures.

The Commission also notes a substantial commitment of industry resources for severe accident evaluation under the Industry Degraded Core Rulemaking (IDCOR) Program (see "IDCOR Program Plan," November 1981, Technology for Energy Corporation, Knoxville, Tennessee), to be completed by mid-1983. In support of the IDCOR Program, the Nuclear Power Division of the Electric Power Research Institute has scheduled a number of important projects under its Degraded System Technology Program. The Commission feels it is prerequisite to the objectives and schedules set forth in this Policy Statement on Severe Accidents that the IDCOR Program continue on its present course and schedule.

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[1] See previous Commission policy statement (43 FR 38954, August 31, 1978) with respect to antitrust aspects involved in the standardization approach.

We do not expect our present views on severe accident considerations to change substantially as a result of ongoing NRC-sponsored or industry research with respect to the fundamentals of the present designs and their general adherence to our safety policy. However, it is possible—though not necessarily likely for any or all classes of nuclear power plants reactors—that new information will demonstrate the desirability of certain lesser changes such as improved reliability of some engineered safety features and addition of filtered vents to some types of containment and design features that would reduce the risk from sabotage and earthquakes. Also, we expect research results to permit further risk reduction by identifying worthwhile refinements in the design of operating nuclear plants or their operating practices rather than indicating major redesign needs. The research will also help to develop more accurate probabilistic risk assessment methods for use in regulatory desision-making and to provide greater assurance of adequate protection of public health and safety.

VIII. Treatment of Severe Accidents in Ongoing Licensing Proceedings

The Commission has considered the question of whether additional regulations should be issued at this time to require more capability to mitigate the consequences of severe accidents in operating plants and plants under construction. Although, as noted above there are large programs presently ongoing that will provide information related to this question, they have not yet produced significant new insights into consequence mitigation features sufficient to support further regulatory changes, nor have they yet shown a clear need to add such features.

There are presently two rules, one final and one proposed, on hydrogen control and related matters (46 Fr 58484, December 2, 1981, and 46 Fr 62281, December 23, 1981). These rules are intended to provide reasonable assurance, pending generic resolution, that the risk of degraded-core accidents for plants designed in accordance with current regulatory requirements is acceptable. Accordingly, individual licensing proceedings are not appropriate forums for a broad examination of the Commission's regulatory requirements relating to control and mitigation of accidents more severe than the design basis. Similarly, notwithstanding the Class 9 accidents review requirements for environmental hearings of the Commission's Statement of Interim Policy on "Nuclear Power Plant Accident Considerations Under the National Environmental policy Act of 1969" (45 FR 40101, June 13, 1980), the capability of current designs or procedures (or alternatives thereto) to control or mitigate severe accidents should not be addressed in case-related safety hearings. Likewise, our new rule for pending construction permits (47 FR 2286, January 15, 1981) is sufficient for licensing of that class of plant insofar as severe accident management or consequence mitigation is concerned.

The ongoing programs of severe accident study and research described in Section VII of this Policy Statement will provide new information. The Commission will ensure that these programs are closely coordinated and will concentrate on specific analyses and experiments needed for operating plants and plants under construction and on new standardized designs for future construction permit applications. The research will be designed to furnish information for regulatory decisions regarding features for accident prevention and management as well as consequence mitigation. The research will also improve our understanding of plant response to severe accidents so that their characteristics can be implanted into operator training and procedures. The intent is to obtain sufficient information in about two years to complete policy development and decisionmaking on severe accidents for all classes of plants. Confirmatory research may extend another several years.

In this regard, the Commission notes that much of the work to be done by the staff and its contractors as part of the Severe Accident Research Plan can be applied to light-water reactors either yet to be designed or to reactors now in operation. In some cases, the value of a change may be realized on either old or new designs. Examples of this would be changes in operator training or procedures for severe accidents and the addition of hydrogen ignition systems. In other cases, the cost of design variations could only be justified for new designs. Examples would be variations in the construction material of the containment basemat or variations in the ultimate strength of containment (See Section IX of this Policy Statement).

As described in Section VII, information on the potential for degraded-core accidents (to the extent allowed by the existing data base) is being assembled and assessed under the Industry Degraded Core Rulemaking Program. This effort is directed solely toward the current generation of operating plants. Thus, there are concurrent interests of NRC and IDCOR in assessing costs and relative benefits of potential changes in design and operations for operating plants. Accordingly, we expect that our staff will meet periodically with IDCOR staff to review progress, assess the safety significance of new information, and ensure that, to the extent feasible, the programs of study are closely coordinated and complementary.

Moreover, we expect the staff and the industry to interact periodically with the ACRS on severe accident research matters applicable to plants in operation or under construction or applicable to standard designs under review for construction permit applications. The staff should exchange views intially with the ACRS to agree on a tabulation of the fundamental severe accident questions and on the approach to answering these questions for the various classes of plants operating or planned. As the programs progress in NRC and industry, the ACRS will be asked to review progress and offer suggestions for change where needed to answer these fundamental questions.

The Commission will conduct an annual review of severe accident research to determine progress and to ascertain whether any substantial and significant new information has been developed that would require additional rules for severe accident protection features for operating plants and plants under construction. The Commission expects to conduct this annual review twice (the first time in the Spring of 1983 and the second, one year later), finally resolving this matter for operating plants and plants under construction by mid-1984.

IX. Present Views on Other Safety Issues and Efforts In Progress

A. Striking a Balance Between Accident Prevention and Consequence Mitigation.

The general thrust of Item II.B.8 of the TMI Action Plan (NUREG–0660) was for NRC and the nuclear industry to give further consideration to severe accidents beyond the design basis and, more specifically, to explore means to decrease the probability as well as mitigate the consequences of such accidents. By using this approach the Commission seeks to strengthen its defense-in-depth policy by striking a new balance between accident prevention and consequence mitigation in controlling the risk of nuclear power plant accidents.

Preventive measures to reduce the probability of severe accidents have been at the heart of reactor safety regulations for many years—for example, most of the General Design Criteria of 10 CFR Part 50, Appendix A. Since the accident at TMI, there has been increased recognition that one of the most important systems in providing assurance of core-melt prevention following transients is a reliable decay heat removal system (DHRS). This had led NRC to approve shutdown decay heat removal requirements as an unresolved saftey issue (Task A-45).

The objective of this task is to develop a comprehensive and consistent set of shutdown cooling requirements for existing and future LWRs, including the study of alternative means of shutdown decay heat removal and of diverse "dedicated" systems for this purpose. This effort is supported by numerous research tasks. It is our hope that this will result in establishing technical performance criteria for decay heat removal systems.

However, the General Design Criteria also require that there be containment systems to control the effects of severe accidents. This is a form of consequence mitigation. Consideration of specific consequence mitigative measures for the dominant core-melt accident sequences in a new ingredient in reactor safety, and further clarification of the current policy and direction of Commission thinking on this subject for new CPs is provided below.

B. Containment Strength

In exploring the need for additional design or operational features in the next generation of plants to mitigate the consequences of core-melt accidents, the Commission will emphasize actions that improve understanding of containment building failure characteristics and design features or emergency actions that decrease the likelihood of containment building failures. The Commission has learned in its licensing activities and studies since the accident at TMI that some containments are better than others for mitigating core-melt consequences. Although not specifically designed to accommodate the hostile environments resulting from severe accidents, they can contain a large fraction of the radiological inventory from a spectrum of severe accidents. For example, large, dry containments may be sufficiently capable of mitigating the consequences of a wide spectrum of core-melt accidents; hence, further requirements may be unnecessary or, at most, upgrading current requirements to gain limited improvements of their existing capability may be necessary. The Commission expects that these matters will continue to be subjects for study (e.g., in the NRC research program and in further plant-specific studies such as the Zion and Indian Point probabilistic risk assessments).

Through an intergrated systems analysis it may be possible to demonstrate that other containment types exhibit a functional containment capability equivalent to that of large, dry containments. Although containment strength is an important feature to be considered in such an analysis, credits should also be given to the inherent energy and radionuclide absorption capabilities of the various designs as well as other design features that limit or control combustible gases.

A major difficulty in assessing systems behavior under the transient conditions of a core melt is the state of knowledge of the performance of containment and other consequence mitigation technologies. Probabilistic risk assessment appears to be fairly well developed for large, dry containment types, and the staff expects that comparable knowledge will be available soon for other containment types (Ice-Condenser and Mark I, II, and III).

It is clear that core-melt accident evaluations and containment failure evaluations should continue to be performed for a representative sample of operating plants and plants under construction and for all future plant designs. These studies should improve our understanding of the containment loading and failure characteristics for the various classes of facilities. The analyses should be as realistic as possible and should include, where appropriate, dynamic and static loadings from combustion of hydrogen and other combustibles, static pressure and temperature loadings from steam and non-condensibles, basemat penetration by core-melt materials, and effects of aerosols on engineered safety features. Following the outcome of severe accident research, a decision will be made whether to establish performance criteria for containment systems.

In addition to energy absorption capabilities mentioned above, several features that may decrease the chances of containment failure for some accidents in some containment designs are listed in Item II.B.8 of the TMI Action Plan, namely:

- Filtered venting of containment;
- Core-retention devices; and
- Hydrogen control features.

The NRC has been studying these and other mitigation features and is now in a position to give the following preliminary guidance about them for the designers of plants for new construction permit applications.

C. Filtered-Vented Containment Systems

In future CP applications for both pressurized water reactors (PWRs) and boiling water reactors (BWRs), filtered-vented containment systems, or a variation of such systems, should be provided if these yield a cost-effective reduction in risk. Some recent information indicates these systems may not be cost-effective for large, dry containments while other studies indicate these may be of value for some pressure suppression containments such as the MK III design of General Electric, or if the risk is dominated by large seismic events. GE has also considered a wet-well vent for its standardized Mark III design. These preliminary conclusions need to be addressed and final conclusions reached for new designs before they are applied to future plants.

D. Core-Retention Devices

Over the past several years, studies (such as NUREG-0850) of large, dry containment buildings indicate that classical core-retention devices are probably not cost-effective in reducing the release of radioactive materials to the atmosphere. Post-accident flooding of the reactor cavity may be all that is necessary to establish a coolable debris bed and prevent basemat penetration. However, unique basemat designs and unique or undesirable liquid-pathway characteristics [8] should be carefully weighed in future CP applications before deciding that this concept can be dismissed. Also, the materials of construction in the basemat can reduce or eliminated aerosols, combustibles (hydrogen and carbon monoxide), and non-condensibles arising from melted core and concrete interactions. Such gases and aerosols could contribute to the overpressurization threat to containment building integrity and should be considered in an integrated evaluation of the adequacy of containment performance.

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[8] For example, a core-retention device is required on the floating nuclear plant because of liquid pathway issues.

E. Hydrogen Control Systems

The Commission intends to require hydrogen control systems to deal with degraded-core accidents for all dry containments, ice condenser containments, and the Mark I, II, and III containments. The requirements for plants in operation or under construction are contained in two rules (one final and one proposed) on "Interim Requirements Related to Hydrogen Control" (46 FR 58484, December 2, 1981, and 46 FR 62281, December 23, 1981). Somewhat more stringent requirements have been set forth in the CP rule. Our existing requirements for hydrogen control systems are based on a presumption that core cooling would be restored following a severe accident and that the reactor vessel and primary heat-transport systems would maintain their integrity. The cost-effectiveness of combustible gas control systems for even more sever accidents (i.e., accidents proceeding with core melt and vessel melt-through and large combustible gas releases) should be examined for future CP applications.

F. Reliable Containment Heat Removal

The staff is studying the need for more reliable subsystems for containment heat removal (in addition to systems normally provided in the past) as possible alternatives to filtered venting for prevention of gradual over-pressurization failure of the containment building. The cost-effectiveness of this alternative should be considered in the design of plants for new CP applications. In addition to a reduction of probability of gradual over-pressurization failure, the effective design of containment heat removal subsystems may also reduce the source term for the release of radioactive materials to the environment. Research tasks directed to these alternatives could provide information useful to the cost-effectiveness analysis of alternatives and possibly in establishing technical performance criteria if these subsystems prove cost-effective. Applicants for standard design approvals or construction permits should give special consideration to reliability of decay heat removal systems as a margin of conservatism to allow for the limitations of risk assessment methods for extraordinary events such as earthquakes and sabotage.

G. Other Consequence Mitigation Measures

There are other issues listed in Item II.B.8 of NUREG-0660 that the Commission believes have minimal value for improved safety and, therefore, need not be considered further; namely, effects of severe accidents at multi-unit sites and post-accident recovery plans. One item deserving consideration, however is the location outside containment of systems that could become highly radioactive following a severe accident. This item is not a policy question, but it is a matter of good engineering practice. The Commission expects that designers and applicants for future plants will show that these systems have been located to facilitate human access and to enhance their long-term, post-accident control and maintenance.

In general, core-melt consequence mitigation design features and procedures should be evaluated on as realistic a basis as possible. Considering the low probability of core-melt accidents, the Commission does not intend to require the use of conservative design criteria and analysis methods of the sort that have been applied to engineered safety features (safety-related equipment) required by NRC regulations for design basic accidents. Nonetheless, it is important to note that there may be more extreme design conditions for these mitigation system that might compromise safety-related systems. For example, if post-accident inerting is being considered for hydrogen control following a severe accident, then the inadvertent inserting of the containment building should not violate requirements appropriate for a design basis accident (i.e., service level A for steel containment buildings, including the effects of buckling). It is also important that attendant risks be taken into account in considering design and operational improvements for core-melt mitigation. Attendant risks introduced by new systems (e.g., inadvertent operation of a system for filtered venting of containment) are an important consideration.

H. External Events, Human Errors, and Sabotage

Another class of issues is the relation to severe accident considerations of sabotage and external events such as floods, winds, and earthquakes, as well as other accident initiators that are difficult to quantify, including multiple human errors and design errors. The Commission has addressed external events and operator errors in its "Policy Statement on Safety Goals for the Operation of Nuclear Power Plants" (48 FR 10772, March 14, 1983) within the context of the plan to evaluate the safety goal policy statement. Although the Commission has explicitly excluded sabotage from the safety goal policy statement, the Commission recognizes the merit of providing guidance on plant design that inhibit sabotage.

Pending decision on the final content of the safety goal policy statement, the Commission expects that applicants for standard design approvals will adddress these issues in their Safety Analysis Reports. Along with external events and human errors, these reviews will include design considerations to inhibit sabotage. Special attention should be paid to the potentially conflicting design objectives that may arise from safety and sabotage considerations. Applicants for standard design approvals or construction permits are to give specific consideration of plant design features that would decrease the probability of damage from sabotage.

In addressing potential accident initiators (including earthquakes, sabotage, and multiple human errors) where empirical data are limited and residual uncertainty is large, the use of conceptual modeling and scenario assumptions in Safety Analysis Reports will be helpful. They should be based on the best qualified judgments of experts, either in the form of subjective numerical probability estimates or qualitative assessments of initiating events and casual linkages in accident sequences. In addition to this design analysis approach for new plants, the Commission's continuing practice of conservatism and use of the defense-in-depth concept for the design basis required by current regulations are intended to provide the requisite margin of protection for accident initiators of these kinds.

I. Siting Policy

Appropriate site selection can hold significant implications for reducing the contribution to overall risk of severe nuclear accidents from external event initiators such as earthquakes, floods, and tornadoes. Moreover, site characteristics such as meteorology and terrain have significant influence on the distribution and dispersal of any accidental releases of radioactive materials. Also, the population distribution in the vicinity of the site affects the magnitude and location of potential consequences from radiation releases.

Current siting regulations are set forth in 10 CFR Part 100, and siting guidance is given in Regulatory Guide 4.7, "General Site Suitability Criteria for Nuclear Power Stations." Siting policy and planning guidance for further improvements are set forth in "U.S. Nuclear Regulatory Commission Policy and Planning Guidance, 1982" (NUREG–

0885, Issue 1, January 1982, page 10) as follows:

> **Policy**
>
> Siting criteria for nuclear power plants and other major nuclear facilties need improvement. The staff has been working to prepare in the very near term modified regulations concerning the siting of nuclear power plants. The Commission has decided to better define its safety objectives and better characterize the radioactive source term before proceeding with new siting regulations.

Any new siting rule will be consistent with new radioactive source term information for severe accidents that are expected to be available in mid-1983. A program plan for issuing a siting rule that is consistent with the Commission's reassessment of the source term for radioactive material releases and the Commission's future policy on safety goals will be developed following completion of these actions. Based on staff work to date, the new siting rule is expected to apply to future sites only and to be a refinement of present siting guidance rather than a drastic revision of it.

X. Implementation Guidelines for Severe Accident Policy

Pending final resolution of current NRC initiatives regarding legislative and administrative regulatory reforms, as well as safety goals and their implementation plans, the Commission sets the following conditions for standard designs for reference in future CP applications or in any reactivations of previously docketed CP applications:

(1) Demonstration of compliance with current Commission regulations,

(2) Completion of a Probabilistic Risk Assessment before standard design approval through rulemaking. The applicant will be required to install those design features for prevention, management, or mitigation of severe accidents that are considered in light of Section IX above and shown to be cost-effective in the course of rulemaking for standard design approval;

(3) Completion of a staff review of the standard design with a conclusion of safety acceptability; the review will be based upon the updated version of the Standard Review Plan (NUREG-0800) and 10 CFR 50.34(g) that requires applicants to evaluate differences from the Standard Review Plan (see 47 FR 11651, March 18, 1982, and 47 FR 15569, April 12, 1982):

(4) Consideration of all applicable Unresolved Safety Issues; and

(5) Adherence to the requirements coming from the experience at TMI and set forth in the CP Rule 10 CFR 50.34(f) (47 FR 2286, January 15, 1982).

Regarding the last item, the CP Rule applied initially to a narrow group of CP applications. However, the Commission intends that the CP Rule become a minimum requirement for new plants and, in due course, intends to modify the regulations to that effect. For those CP applications and reactivations of previously docketed CP applications meeting the guidelines above, the Commission expects that no additional fundamental design requirements relating to severe accidents will be issued, unless new safety information shows an unacceptably wide departure from the safety goals and numerical guidelines that may be issued by the Commission.

The only exception to the conditions listed above is that, between now and completion of a review of a standard plant design for severe accident considerations, the Commission will grant CPs, under its previous standardization policy, to applicants for plants referencing a standard design approval supplemented by a showing of conformance to the CP Rule, under the conditions cited in Section VI, "Standardization Policy," above. Regulatory decisions affecting operating plants and plants under construction, regarding any safety requirements being imposed on plants of new design, will be made only after due consideration of the safety-cost tradeoff criteria and available new research information on severe accidents.

List of Subjects in 10 CFR Part 50

Antitrust, Classified information, Fire prevention, Intergovernmental relations, Nuclear power plants and reactors, Penalty, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

The authority for this document is:

(Sec. 161, Pub. L. 83-703, 68 Stat. 948, as amended (42 U.S.C. 2201))

Commissioner Gilinsky's separate views and Commissioner Asselstine's additional views are attached.

Dated at Washington, D.C., this 8th day of April, 1983.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

Additional Views of Commissioner Asbelstine Agreeing in Part and Dissenting in Part

Summary

I support the *concept* embodied in the Commission's proposed policy statement of replacing the broad, open-ended generic rulemaking on severe accidents, as contained in Task II. B. 8 of the TMI Action Plan, with more specific, focused and near-term efforts to consider severe accident issues for various categories of existing and future nuclear power plants. In particular, I believe that the Commission's proposed policy statement provides a much-improved framework for addressing severe accidents through the Commission's consideration of standardized nuclear power plant designs that might be referenced in any future nuclear power plant construction permit applications. I therefore support in general these elements of the Commission's proposed policy statement.

However, I do *not* believe that the Commission's proposed policy statement adequately defines the process for deciding what changes, if any, in the current generation of nuclear power plants (the 79 plants now holding operating licenses and the 59 plants presently under construction) are needed to take into account severe accidents (i.e., accidents beyond those considered in the current design basis accident approach such as core-melt accidents). In marked contrast to the detailed rulemaking process established for standardized designs for *future* plants, the Commission's proposed policy statement provides, for the 138 plants now in operation or under construction, only the general outlines of an internal NRC review process for severe accident issues in place of the Commission's previous decision to conduct a generic rulemaking. Moreover, I believe that the Commission's policy statement reaches certain judgments on the likely outcome of the Commission's evaluations of severe accidents for future as well as existing plants that are unjustified on the basis of information now before the Commission. For these reasons, as discussed in greater detail below, I cannot support either the approach taken in the proposed policy statement for resolving severe accident questions for *existing* plants or the judgments in the proposed policy statement on the likely outcome of the Commission's evaluations of severe accidents. In at least these respects, I reach the same conclusion as did our Advisory Committee on Reactor Safeguards—that the Commission's proposed policy statement is "seriously flawed."

Discussion

One of the more significant lessons learned from the Three Mile Island accident was that severe accidents—

that is, accidents involving serious disruption or melting of the reactor core—can in fact occur, and with greater likelihood than was generally thought previously to be the case. Indeed, prior to the Three Mile Island accident, it was thought that such accidents were so unlikely as to be virtually incredible. For this reason, the Commission's regulations defined such accidents as being beyond the "design basis" for nuclear power plants, and they effectively precluded in the licensing process consideration of issues relating to a plant's ability to withstand such accidents.

Following the Three Mile Island accident, the Commission announced its intent to conduct a long-term, generic rulemaking effort (including the possibility of a hearing) that was intended to establish requirements relating to core-melt accidents (Task II. B. 8 of the TMI Action Plan). An advance notice of proposed rulemaking on this subject was published on October 2, 1980 (45 FR 65474). The Commission's proposed policy statement being issued today would replace this largely unfocused, long-term generic rulemaking effort with two new approaches: one for new standardized plant design (that may serve as the design basis for as-yet-unordered future plants) and a second for the 138 existing plants with operating licenses and construction permits.

For standardized designs, the Commission's proposed policy statement defines in considerable detail the process to be used to resolve severe accident considerations. This process calls for a rulemaking proceeding to certify the acceptability of the design. Since the Commission has recently submitted legislation to the Congress that would require the use of hybrid hearing procedures for the approval of standardized plant designs, I would expect the Commission to employ these or other adjudicatory procedures in these proceedings. The proposed policy statement further specifies that this rulemaking proceedings must include a severe accident review. This review must, in turn, address a number of specific severe accident issues described in detail in section IX of the proposed policy statement. Finally, the proposed policy statement specifies that the design must meet the requirements of the Commission's Construction Permit rule, must achieve a technical resolution of the Unresolved Safety Issues and must be adequately responsive to insights afforded by probabilistic risk assessments.

Taken together, I believe that these elements of the Commission's proposed policy statement provide a much-improved framework for considering severe accidents in standardized designs for future plants. However, even this framework poses certain practical difficulties. For example, the proposed policy statement predicts completion of the severe accident reviews for standardized designs within two years. This time period may not be sufficient to conclude ongoing generic programs to address certain of the more complex Unresolved Safety Issues, such as shutdown decay heat removal. Yet these generic programs may be essential to determine whether a technical resolution of the Unresolved Safety Issues has been achieved in the proposed new designs. The approach also entails some reliance on the use of probabilistic risk assessment techniques which may not be sufficiently matured within the next year or two to resolve severe accident issues. Thus, it may not be possible to conclude these severe accident reviews for standardized designs within the rather optimistic time schedule contemplated in the proposed policy statement.

Nevertheless, on balance, I believe that the proposed policy statement sets forth an acceptable overall approach to addressing severe accident considerations for standardized designs for future plants.

The approach taken by the policy statement for *existing* plants is an entirely different matter. In marked contrast to the approach taken for standardized designs, the policy statement specifies only a process for "regulatory decisions" for existing plants that "may, or may not, include rulemaking." Thus, for existing plants, the Commission may well rely on internal judgments that could remain untested by the types of administrative procedures that will be employed for standardized designs. Moreover, although the policy statement calls for the study of "a range of possible design and operational changes to improve accident prevention and consequence mitigation capabilities" for existing plants, these changes are not identified in the statement.

I would have treated the 138 plants in much the same manner as standardized designs. That is, I would have defined more clearly the process and procedures to be used to evaluate severe accidents, and the severe accident issues that must be considered, for existing plants. Specifically, I would have incorporated a list of severe accident design and procedural changes that should be considered for existing plants. Upon completion of the staff's evaluation of these possible changes based upon our ongoing severe accident research programs and those of the industry (within one to two years), I would have commenced a rulemaking proceeding using hybrid hearing procedures to assess the adequacy of the conclusions reached and to determine whether additional changes might be needed to address severe accident considerations for various categories of existing plants. I believe that such a process would have provided a necessary means both for testing the adequacy of the staff's judgments and for assuring public involvement in our decisionmaking on severe accident issues.

My second concern regarding the Commission's proposed policy statement relates to certain judgments in the statement about the likely outcome of the Commission's evaluations of severe accidents for future and existing plants. Each of these judgments purports to be a judgment by the Commission. In each case, I do not believe that the Commission now has before it sufficient information to support these judgments.

Specifically, the proposed policy statement contains four judgments on the likely outcome of the Commission's severe accident evaluations that I believe are unsupported. First, according to the statement, the Commission believes that nuclear power plants of modern designs can be shown to be acceptable for severe accident concerns if they meet the requirements of the CP rule, if they achieve a technical resolution of the Unresolved Safety Issues and if they are adequately responsive to insights afforded by probabilistic risk assessments. Second, according to the statement, the existing group of about 13 probabilistic risk assessments for specific plants will provide a satisfactory basis for developing insights on severe accident considerations for all existing nuclear power plants. Third, according to the statement, the Commission does not expect its present views on severe accident considerations to change substantially as a result of ongoing NRC-sponsored or industry research with respect to the fundamentals of present plant designs and their general adherence to NRC safety policy. Finally, according to the statement, the Commission expects that no additional fundamental design requirements relating to severe accidents will be issued unless the Commission adopts for use safety goals and numerical guidelines, and new information shows an "unacceptably wide departure" from them.

I want to emphasize that my concern with these judgments is not that they will eventually be found to be unwarranted. It could well be that the Commission's ongoing severe accident research program (at a funding level of about $50 million per year) will over the next year or two provide the necessary support for these judgments. That comprehensive and complex research program has been underway since as early as 1980 and the Commission has yet to have its first briefing on the overall results obtained thus far.

Information to support these judgments may also become available as a result of the industry's IDCOR program, but again, the Commission has yet to receive any results of that effort. Much of the same is also true for the NRC staff's ongoing effort to review and evaluate the adequacy of the existing plant-specific probabilistic risk assessments. Again, the Commission has yet to see any concrete results from this effort. In the absence of this type of information, I simply do not see a basis for the Commission to reach these judgments on the likely outcome of the severe accident evaluations. For this reason, I would have deleted these judgments from the proposed policy statement.

Commissioner Gilinsky's Separate Views on the Severe Accident Policy

I share Commissioner Asselstine's concerns and those of the Commission's Advisory Committee on Reactor Safeguards over the application of this policy. I share especially the ACRS's strong reservations about the overemphasis in this policy statement on use of "probabilistic risk assessment" in design decisions dealing with protection against severe accidents. In view of the lack of reliability data and the uncertainties in calculational techniques, reactor safety must continue to depend on time-tested engineering principles. Particularly important in this context are redundant and diverse means of protection against, and mitigation of, reactor core damage. The Commission should now be giving additional guidance on what it will require in these areas.

I find it surprising and disappointing that after all this time, despite the large research programs we conduct, and the extensive expertise and experience of our staff, we have not yet—in the words of this policy statement—"produced significant new insights into consequence mitigation features sufficient to support further regulatory changes * * *".

In a sense, this increases the importance of public comments on this policy, for it appears that conceptual improvements in reactor safety will have to come from outside this agency.

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48 FR 33376

Published 7/21/83

Discontinuance of NRC Authority and Assumption Thereof by States Through Agreement; Criteria for Guidance of States and NRC

AGENCY: Nuclear Regulatory Commission.

ACTION: Statement of policy: Revision.

SUMMARY: Criterion 9 of the NRC's Policy for Discontinuance of Authority dated January 23, 1981 appearing at 46 FR 7540–7546, deals with waste disposal. It states that the standards for disposal into air, water and sewer, and burial in soil shall be in accordance with 10 CFR Part 20. The Commission's regulation 10 CFR Part 61, which became effective December 27, 1982, provides licensing procedures, performance objectives, technical requirements and financial assurance requirements for the issuance of licenses by NRC for the land disposal of most wastes that are commonly referred to as low-level waste. In addition, the Nuclear Waste Policy Act of 1982 requires that the NRC and the Agreement States provide and approve certain stated financial arrangements prior to issuance of a license for low-level radioactive waste disposal or in the case of licenses in effect, prior to termination of such licenses. The financial arrangements are to cover completion of all requirements for the decontamination, decommissioning, site closure and reclamation of sites, structures and equipment used in conjunction with low-level waste disposal.

The Commission believes that States seeking an agreement pursuant to Section 274b of the Atomic Energy Act of 1954, as amended, to regulate land disposal of radioactive waste should establish standards for disposal which are in accord with the applicable technical definitions, performance objectives, technical requirements, and financial assurance requirements of 10 CFR Part 61 and the waste transfer and manifest system prescribed in 10 CFR Part 20. For the waste manifest system to function effectively on a national basis, it is necessary for all licensees, both NRC and Agreement State, to follow the same system. Thus, the Agreement States are expected to adopt and implement this system for their licensees.

Therefore, the NRC is revising Criterion 9 to include reference to the performance objectives, technical requirements and financial assurance requirements contained in Part 61 and the waste transfer and manifest system contained in Part 20. The revision also satisfies the provisions of the Nuclear Waste Policy Act of 1982. Criterion 9 will be used in judging the adequacy and compatibility of that aspect of a State's regulatory program for regulating land disposal of low-level radioactive waste. No additional revisions to the criteria are considered necessary at this time to enter into an agreement with a State which includes authority to regulate low-level radioactive waste disposal.

For Agreement States currently regulating operating burial sites, NRC has been and will continue to work with the States to implement Part 61 provisions on a case-by-case basis, to the extent practicable. The waste transfer and manifest system, 10 CFR 20.311 becomes effective December 27, 1983. On an interim basis, arrangements are being made with the Agreement States regulating the existing burial sites to implement the waste classification system and waste transfer and manifest system through the burial site licensees.

FOR FURTHER INFORMATION CONTACT: Kathleen N. Schneider, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone: 301–492–9893.

SUPPLEMENTARY INFORMATION: Criterion 9 is revised to read as follows:

* * * * *

9. Radioactive Waste Disposal.

(a) Waste disposal by material users. The standards for the disposal of radioactive materials into the air, water and sewer, and burial in the soil shall be in accordance with 10 CFR Part 20. Holders of radioactive material desiring to release or dispose of quantities or concentrations of radioactive materials in excess of prescribed limits shall be required to obtain special permission from the appropriate regulatory authority.

Requirements for transfer of waste for the purpose of ultimate disposal at a land disposal facility (waste transfer and manifest system) shall be in accordance with 10 CFR 20.

The waste disposal standards shall include a waste classification scheme and provisions for waste form, applicable to waste generators, that is equivalent to that contained in 10 CFR Part 61.

(b) Land disposal of waste received from other persons. The State shall promulgate regulations containing licensing requirements for land disposal

of radioactive waste received from other persons which are compatible with the applicable technical definitions, performance objectives, technical requirements and applicable supporting sections set forth in 10 CFR Part 61. Adequate financial arrangements (under terms established by regulation) shall be required of each waste disposal site licensee to ensure sufficient funds for decontamination, closure and stabilization of a disposal site. In addition, Agreement State financial arrangements for long-term monitoring and maintenance of a specific site must be reviewed and approved by the Commission prior to relieving the site operator of licensed responsibility (section 151(a)(2), Pub. L. 97–425).

Commissioner Roberts, in disapproving, stated "Given the states' and the public's interest in all aspects of our waste disposal regulations and guidance, this revision should go out for public comments."

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48 FR 36358
Published 8/10/83

Investigations and Adjudicatory Proceedings; Statement of Policy

Recent developments in several ongoing licensing proceedings require the Commission to address how the NRC staff, the Office of Investigations (OI), and adjudicatory boards are to treat information regarding pending inspections and investigations that is material to the issues in controversy in NRC's adjudicatory proceedings. There are potential conflicts between a presiding officer's need to be informed of material developments and an investigating office's need to avoid premature disclosures that could compromise the inspection or investigation. These potential conflicts are the subject of an NRC internal task force study on developing guidelines for reconciling these conflicts in individual cases. Until that task force reports and the Commission acts on its recommendations, the Commission's policy in individual cases would be as follows:

1. Under current practice parties in adjudicatory proceedings have the general duty to inform the adjudicatory boards of matters that are material to the issues in controversy so that informed decisions can be made. Except as provided in the following paragraph, information which is the subject of ongoing inspections or investigations should be considered for disclosure to the adjudicatory boards under the same principles that apply to other materials.

2. Consistent with paragraph 1 above, where staff or OI believes in a particular case that it is its duty to inform an adjudicatory board of information which is the subject of a pending inspection or investigation or an adjudicatory board believes that it needs more information concerning the subject of a pending inspection or investigation, but that unrestricted disclosure could compromise the inspection or investigation, the information and an explanation of the basis for the concern about disclosure to the other parties should first be presented to the board, *in camera*, without disclosure of the substance to the other parties. While the parties should not be provided with the substance of the information provided to the board, they should be notified that the staff will present information to the Board on a pending inspection or investigation. In any case where the Board feels that disclosure to other parties is required (*e.g.*, withholding information may prejudice one or more parties) under protective order or otherwise, and staff or OI is still concerned that disclosure could compromise the inspection or investigation, staff or OI should petition directly to the Commission for relief and the Board should refrain from ordering disclosure until it has received Commission guidance.

The Commission would like comments on: (1) The propriety and desirability of an *in camera* presentation to the Board with only one party present of information relating to a matter in controversy and (2) any alternatives to the scheme adopted by the Commission which the commenters believe would better serve the needs of the parties to procedural fairness, of the Boards to pertinent information, and of the Commission to protect incomplete inspections and investigations. These comments may be considered by the Commission when it reviews the conclusions and recommendations of the internal NRC task force study.

Dated at Washington, D.C. this 5th day of August 1983.

For the Commission.[1]

Samuel J. Chilk,
Secretary of the Commission.

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[1] Commissioner Gilinsky was unavailable to participate.

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48 FR 44173
Published 9/28/83

10 CFR Part 50

Revision of Backfitting Process for Power Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Policy Statement.

SUMMARY: The Commission has completed an initial review of NRC requirements and staff practices for the imposition of new regulatory requirements for power reactors, a process commonly referred to as "backfitting." Based upon this review, the Commission has concluded that existing NRC regulations on backfitting and past staff practices do not adequately identify and justify proposed new requirements. To correct this deficiency, the Commission has directed the staff to implement certain interim measures which are described in the policy statement.

FOR FURTHER INFORMATION CONTACT: William M. Shields, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone: 301–492–8693.

SUPPLEMENTARY INFORMATION:

Policy Statement

The Commission has completed an initial review of NRC requirements and staff practices for the imposition of new regulatory requirements for power reactors, a process more commonly referred to as "backfitting". This backfitting process can include both plant-specific changes and generic changes that are proposed to be applied to one or more classes of power reactors. Based upon this initial review, the Commission has concluded that existing NRC regulations on backfitting (10 CFR 50.109) and past staff practice do not adequately identify and justify proposed new requirements.

To correct this inadequacy the Commission has directed the staff to implement certain interim backfitting measures governing the documentation and review of new generic and plant-specific requirements that are proposed by the NRC staff. In addition, the Commission is initiating a rulemaking proceeding that is intended to replace the Commission's existing backfitting regulation with measures for the long-term management of the backfitting process. This policy statement describes the interim and long-term actions that

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the Commission has taken or intends to take with regard to backfitting. The Commission believes that these measures, taken together, will provide adequate management of the Commission's process for documenting, considering and deciding on proposed new generic and plant-specific requirements for power reactors.

On June 16, 1982, the Commission approved the charter for the Committee to Review Generic Requirements (CRGR). The CRGR has the responsibility to review and recommend to the Executive Director for Operations (EDO) approval or disapproval of requirements to be imposed by the NRC staff on one or more classes of power reactors. The CRGR has developed means for controlling the number and nature of the generic requirements placed by NRC on licensees. The objectives of these controls are to eliminate or remove any unnecessary burdens placed on licensees, reduce the exposure of workers to radiation in implementing some of these requirements, and conserve NRC resources while at the same time not reducing the levels of protection of public health and safety. These controls should ensure that NRC-imposed generic requirements do in fact contribute effectively and significantly to the health and safety of the public, and do lead to utilization of both NRC and licensee resources in as optimal a fashion as possible in the overall achievement of protection of public health and safety.

The Commission has reviewed the experience gained through the operation of the CRGR during the past year. Based upon its review of that experience, the Commission is satsified with the operation of the CRGR, and believes that the CRGR provides an effective means for managing the imposition of new requirements that are proposed to be applied to one or more classes of power reactors.

On June 22, 1983, the Commission approved a set of directions to the NRC staff for documenting and considering staff proposals for new plant-specific requirements. These actions are intended to provide controls for plant-specific backfitting measures that are similar to those applied by the CRGR for generic backfitting proposals. In particular, for operating reactors the Commission has directed the NRC staff to prepare, on a plant-specific basis, a description of each staff-proposed requirement that involves a new staff position or a change in an existing staff position. The description must include a brief statement of how the proposed requirement would improve safety, and must be approved by NRC licensing management before being forwarded to the licensee.

The Commission has directed the staff to provide an informal appeal process to provide an opportunity for operating reactor licensees to discuss any areas of disagreement with a staff-proposed requirement. If, after use of the appeal process, the licensee objects to the proposed requirement, the staff must prepare an assessment of the costs and benefits of the proposed requirement that considers, to the extent practical and applicable, the information required for the review of generic requirements by the CRGR. Unless the appropriate Office Director determines that the prompt imposition of a requirement is needed to protect the public health and safety or the common defense and security, a staff-proposed requirement may not be imposed during the appeal process and, if the licensee objects, until after the cost-benefit assessment is completed and a final determination has been made that the requirement should be imposed. The NRC staff is preparing an implementation plan for satisfying the Commission's directions regarding plant-specific backfitting proposals for operating reactors. Following Commission review, the implementation plan and the appeal process will be sent to all operating reactor licensees. Finally, the Commission has directed the NRC staff to conduct a study of the feasibility of, and alternatives for, applying backfit controls to plants for which a construction permit, but not an operating license, has been issued.

These directions to the NRC staff should provide for effective interim control of plant-specific backfitting proposals for operating power reactors. The Commission's directions to the staff should also provide the information needed to decide upon possible approaches for considering new requirements for power reactors under construction. In sum, the Commission believes that these actions, in combination with the establishment of the CRGR, should provide for the effective interim management of the imposition of new requirements for power reactors.

The Commission is also initiating a rulemaking proceeding for the purpose of establishing requirements for the long-term management of the backfitting process, an action that will provide for the replacement of the current 10 CFR 50.109. In that regard, the Commission has received proposed backfitting rules from its Regulatory Reform Task Force and from the Atomic Industrial Forum (The latest AIF proposal is contained in a letter to the Commission dated July 7, 1983). In addition, the Commission has received the views of its Ad Hoc Committee for Review of Nuclear Reactor Licensing Reform Proposals on the backfitting issue. The Commission believes that it would be helpful to obtain the views of the electric utility licensees, other elements of the nuclear industry and the public on these proposals as well as on several specific questions regarding backfitting before proceeding with a proposed rule. Therefore, the Commission is proceeding with an advance notice of proposed rulemaking (published elsewhere in this issue) to solicit comments on these questions, the backfitting rule proposals now before the Commission, and on other alternatives for the long-term management of the backfitting process. The comments received from this advance notice of proposed rulemaking, together with the experience gained in the implementation of the interim backfitting measures already imposed by the Commission and the results of the NRC staff's study of backfitting controls for power reactors under construction, should provide the information needed by the Commission to proceed with the prompt development of a proposed backfitting rule. In addition, because the Commission's existing backfitting rule (10 CFR 50.109) has only been used in rare instances and therefore has not provided an adequate basis for identifying and justifying proposed new requirements, the Commission intends, as part of the rulemaking mentioned above, to replace that provision of the Commission's regulations with a new rule.

Dated this 22nd day of September, 1983, at Washington, D.C.

For the Nuclear Regulatory Commission.

John C. Hoyle,

Acting Secretary of the Commission.

49 FR 7676
Published 3/1/84

Policy Statement on Regionalization

Introduction and Background

In the U.S. Nuclear Regulatory Commission Policy Statement on Regionalization published in the **Federal Register** on March 25, 1983 (48 FR 12619), the Commission sought public comment on initiatives that would enlarge the role of its regional offices in implementing national programs in the areas of selected licensing and support functions that historically have been centralized in NRC's headquarters organizations. The oral and written comments that were received during public meetings or in response to the **Federal Register** notice have been considered. This revision of the March 25, 1983 Policy Statement on Regionalization contains the following major changes:

1. Regionalization is essentially complete except for a pilot program of certain technical reviews of operating reactor license amendments. The Commission will review the pilot program at the end of 2 years and decide if such technical reviews should continue to be conducted in the regions.

2. Licensing authority and NRR project managers will not be transferred to the regions except that limited licensing authority and the project manager for Fort St. Vrain will remain in Region IV;

3. Nonpower reactor licensing will not be decentralized; and

4. License fee management will not be decentralized.

For several years, NRC has conducted various pilot programs to decentralize regulatory activities on a limited basis. Examples of such programs include selected materials licensing, reactor operator licensing, emergency planning, state liaison, and some operating reactor licensing actions. These pilot programs appear to have been successful.

A 2-year pilot program to decentralize selected selected materials licensing activities was conducted in Region III from March 1978 to March 1980. The overall experience of this pilot program has been good. It has provided better coordination between the materials licensing staff and the regional inspectors and has provided better services to applicants and licensees.

Goals

As a result of these pilot programs and the recognition that NRC could improve the quality of regulation, the Commission developed in October 1981, basic policy goals for enlarging the role of NRC regional offices in regulatory activities beyond the scope of the pilot programs. The Commission's decision was intended to:

- Improve its coordination of licensing, inspection and enforcement activities at each facility
- Baring NRC nearer to state and local governments and the public by formalizing the role of regional offices to represent NRC in their regions
- Strengthen incident response capability by delegating certain responsibilities and authorities to the regions
- Upgrade the position of the NRC Regional Director

The goals associated with decentralizing certain headquarters regulatory activities have been achieved.

Implementation

To enlarge the role of regional offices, NRC first reorganized the Office of Inspection and Enforcement, transferred its five regional offices to direct control of the Executive Director for Operations (EDO), and upgraded the position of Regional Director to that of Regional Administrator. The position of Deputy Executive Director for Regional Operations and Generic Requirements (DEDROGR) was created simultaneously. In addition to his function as Chairman of the Committee To Review Generic Requirements (CRGR) the DEDROGR provides support to the EDO in implementing the EDO's managerial and supervisory responsibility for the regions.

Early in 1982, headquarters and regional offices developed planning assumptions and began to identify regulatory activities that could be decentralized. The planning assumptions centered on whether national regulatory programs could be more effective in serving the public and the regulated industry if some activities were implemented at the regional level.

Pilot programs for both materials licensing and reactor operator licensing have been implemented in some regions in recent years. Licensing activities for several categories of nuclear materials licenses were transferred from headquarters to Regions I and III in 1982 and to Regions II, IV and V in 1983. The authority to issue licenses to reactor operators was delegated to Regions II and III in 1982 and to Regions I, IV and V in 1983. Two-hundred and sixty operating reactor technical reviews were transferred to the regions in 1982. In 1983, approximately 100 operating reactor technical reviews were transferred to the regions. In October 1982, NRC opened a Denver Field Office in Region IV that is responsible for uranium recovery licensing. In December 1982, limited authority for certain licensing actions for the Fort St. Vrain reactor was delegated to Region IV.

The process that has been called regionalization is essentially complete. Detailed schedules documenting what was accomplished are included in the Table.

During fiscal year 1984 (FY 84), the technical review of 280 licensing actions for operating power reactors are planned to be done in the regions. A 2-year pilot program, limited to two operating power plants in each of three regions, will be implemented to test the method of selecting licensing action for technical review in the regions. The technical reviews transferred to the regions as part of this pilot program will comprise a portion of the total number of technical reviews that will be done in the regions. The regions will perform technical reviews and safety evaluations for these licensing actions. The Office of Nuclear Reactor Regulation (NRR) will select which technical reviews are sent to the regions, will retain licensing authority, and will continue to issue all license amendments and Safety Evaluation Reports for the reactors in the pilot program as well as reactors not in the pilot program. The following are benefits that are expected to be derived from the pilot program:

- Regionalization of the technical reviews would enable closer coordination between inspection and licensing activities and better communication with the licensees which, in turn, should produce more effective licensing and inspection programs.
- Regionalization of the technical reviews would enhance safety where on site physical inspection is preferred or where first hand knowledge of plant operations is an advantage.

An audit program will be developed to measure the success of the pilot program. Quantitative criteria to be examined might include time to complete reviews, number of review hours expended, inventory reduction per fiscal year, and number of appeals. Qualitative criteria might include uniformity of program application and results among the regions, enhanced incident response capability, quality of work products and efficiency of interoffice communications. Preferably quantitative criteria, but at least qualitative criteria, will be developed to judge the effect of regional technical reviews on safety. The Commission will review the results of the pilot program at the end of 2 years. Licensing for nonpower test, research and training reactors will be retained in NRR.

Management

NRC management controls have changed as decentralization has proceeded. In accordance with the Energy Reorganization Act of 1974, the responsibility for the licensing programs is assigned to the directors of NRC program offices. This responsibility will not be transferred, but the authority to implement certain licensing activities has been delegated to Regional Administrators. The headquarters program offices will remain responsible for their overall programs, will continue to establish broad, uniform policies and guidance based on Commission and EDO direction, and will audit regional activities to assure consistent implementation of policy guidance and consistency in interpreting NRC requirements. If decision at the regional level appear to be inconsistent in the application of regulatory requirements, licensees may appeal them through the program offices. These appeal procedures have been developed and will be implemented following approval by the Commission.

It is essential that the Commission maintain effective program oversight to ensure consistency among regions. As such, the regions are agents of the headquarters offices for implementing a variety of agency programs. For example, IE historically has established policy, defined the inspection and enforcement programs, and monitored their implementation in the regions. Likewise, for licensing activities that have been transferred to the regions the program offices will retain responsibility for policy formulation, program development, and control of implementation. The Commission through the EDO intends to ensure consistency in regional operations through the following mechanisms:

- Periodic management meetings with the Commission
- Quarterly management meetings of the EDO, Office Directors, and Regional Administrators
- Frequent meetings of Regional Division Directors, Branch Chiefs and working level personnel with counterpart headquarters staff on a DEDROGR, Office Directors, and Regional Administrators
- Development of Commission policy guidance
- Development of procedures and implementation of instructions to the regions
- Development of operating plans for each region

In addition to establishing programs and policies and performing program oversight for the activities delegated to the regions, the NRC program offices continue to perform regulatory functions which require a qualified technical staff in headquarters. The headquarters offices will continue to perform high level waste repository systems licensing and for reactors all the safety, environmental and antitrust reviews of applications for Construction Permits (CP), Operating Licenses (OL), Standard Plants design approval and topical report approval. The NRC headquarters offices also continue to perform the activities associated with safety improvements. These include the resolution of Unresolved Safety Issues (USIs) and other generic issues, generic studies, the performance of risk and reliability assessments, and the systematic assessments of reactor operating experience. The development and approval of new regulatory requirements and modification of existing requirements resulting from the safety improvement efforts or other efforts continue to be the responsibility of the headquarters offices. Relative to licensing actions associated with operating reactors, NRC headquarters issues all license amendments and retains the project manger except for Fort St. Vrain, where project manger and limited authority to issue license amendments have been transferred to Region IV. In addition, headquarters offices will be responsible for implementing certain generic licensing actions (e.g., requirements associated with pressurized thermal shock and steam generator tube integrity) on all reactors to which they apply.

FOR FURTHER INFORMATION CONTACT: Edward B. Blackwood, Executive Coordinator for Regional Operations, Office of the Executive Director for Operations, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555 (301/492–4359).

Dated at Washington, D.C. this 27th day of February 1984.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

TABLE OF ACCOMPLISHMENTS

Function (headquarters' office)	Fiscal year 1982	Fiscal year 1983	Fiscal year 1984
1 Operating reactor licensing technical reviews (NRR)[a]	260, all regions	100, all regions	[b]280, all regions
2 Licensing authority for operating power reactors (NRR)		Region IV: 1 reactor	Region IV: 1 reactor
3 Administer reactor operator license examinations and issue licenses (NRR)[c]		All regions	All regions
4 Authority to issue Uranium mill tailings licenses (NMSS)		Region IV	Region IV
5. Authority to issue materials license (NMSS)	5 types of high volume licenses, Region I, III	5 types of high volume licenses, all regions.	10 types of high volume licenses, all regions
6 Review safeguards license amendments which do not decrease effectiveness for reactors and SNM facilities (NMSS)		Regions I, II	All regions.
7 Conduct transportation route surveys and review contingency plans for spent fuel and category 1 SNM shipments (NMSS)[d]			Region III.
8. Perform closeout surveys and terminations of uranium fuel fabrication licenses (NMSS)		All regions	All regions
9. Maintain oversight of 10 CFR 70 licenses for advanced fuel (Pu) plants that have initiated decontamination and decommissioning activities (NMSS).		All regions	All regions
10 Issue proposed civil penalties with IE concurrence (IE)	All regions	All regions	All regions
11 Issue orders and make 10 CFR 2.206 decisions consistent with the transfer of licensing authority from IE, NRR, and NMSS for Fort St. Vrain and Uranium Mills (IE, NRR, and NMSS).		Region IV	Region IV
12 Review license amendments of emergency plans for operating reactors		All regions	All regions
13 Observe and appraise the annual emergency preparedness exercises for operating reactors. (IE)	All regions	All regions	All regions.
14 Provide legal assistance to Regional Administrators (ELD)	All regions	All regions	All regions.
15 Provide State agreement officer (SP)	Regions II, IV	Regions I, II, IV, V	Regions I, II, IV, V.
16. Continue State liaison functions	All regions	All regions	All regions.
17 Perform budget formulation/execution and management information reporting activities	All regions	All regions	All regions
18. Perform various administrative support services		All regions	All regions

[a] NRR issues the license amendments. The regions conduct certain technical reviews.
[b] Will continue in fiscal year 1985 with a similar number of technical reviews.
[c] NRR will provide for contract examiner assistance.
[d] All regions by fiscal year 1985.

49 FR 7981
Published 3/5/84

10 CFR Parts 2 and 50

Statement of Policy on Financial Qualifications for Electric Utilities

AGENCY: Nuclear Regulatory Commission.

ACTION: Statement of policy.

SUMMARY: On February 7, 1984, the U.S. Court of Appeals for the District of Columbia Circuit granted a petition by the New England Coalition on Nuclear Pollution (NECNP) which challenged the Commission's rule eliminating financial qualification review requirements for electric utilities. *New England Coalition on Nuclear Pollution* v. *NRC*, No. 82-1581 (D.C. Cir. Feb. 7, 1984). The court found that the rule was not adequately supported by its accompanying statement of basis and purpose, and remanded it to the agency.

In response to this decision the Commission intends to conduct an expedited financial qualification rulemaking to address the problems which the court perceived in the Commission's present rule. The Commission understands from the court's order that the mandate will issue no earlier than 45 days from the date of the court's decision, i.e., not before March 23, 1984. Until then, the present rule remains formally valid. Therefore, the Commission directs its Atomic Safety and Licensing Board and Atomic Safety and Licensing Appeal Panel to continue to treat the rule as valid. The Commission expects to complete an adequate response to the D.C. Circuit's decision before the court issues its mandate.

FOR FURTHER INFORMATION CONTACT: Carole F. Kagan, (202) 634-1493.

Commissioner Asselstine abstains.

Dated at Washington, DC this 27th day of February, 1984.

For the Commission.[1]

John C. Hoyle,

Assistant Secretary of the Commission.

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[1] Commissioner Gilinsky was not present when this Statement of Policy was approved but had previously indicated his approval.

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49 FR 8422
Published 3/7/84

10 CFR Part 50

Environmental Qualification of Electric Equipment

AGENCY: Nuclear Regulatory Commission.

ACTION: Statement of Policy on Environmental Qualification.

SUMMARY: The United States Court of Appeals for the District of Columbia Circuit has vacated and remanded a Commission rule which removed from nuclear power plant operating licenses a June 30, 1982 deadline for the completion of the environmental qualification of certain safety-related electrical equipment.[1] *Union of Concerned Scientists* v. *Nuclear Regulatory Commission, et al.*, 711 F.2d 370 (D.C. Cir. 1983) (hereinafter "*UCS* v. *NRC*"). The Court remanded to the Commission with direction to obtain public comments on the current documentation justifying the continued operation of nuclear power plants pending the completion of the environmental qualification program. This Statement of Policy is intended to explain the Commission's response to the D.C. Circuit's remand and to describe other related actions the NRC will take until the conclusion of the rulemaking proceeding which the Commission intends to initiate by an accompanying Notice of Proposed Rulemaking.

SUPPLEMENTARY INFORMATION:

I. Background

To provide adequate protection of public health and safety, nuclear power reactors rely in part on engineered safety systems. The Commission has stated that "fundamental to NRC regulation of nuclear power reactors is the principle that safety systems must perform their intended function in spite of the environment which may result from postulated accidents. Confirmation that these systems will remain functional, under postulated accident conditions, constitutes environmental qualification." CLI-80-21, 11 NRC 707, 710 (1980). This principle is incorporated in the Commission's existing General Design Criteria One and Four. 10 CFR Part 50, Appendix A.

A June 30, 1982 deadline relating to environmental qualification of safety-related electrical equipment in operating nuclear power reactors, and the Commission's lifting of that deadline, came about as follows. In 1977 the Union of Concerned Scientists ("UCS") filed a petition with the Commission, asking among other things for a shutdown of those operating reactors containing electrical connectors that had been discovered by Sandia Laboratories not to be environmentally qualified. The Commission denied that shutdown request. However, a few plants were shut down for specific qualification deficiencies. Petition for Emergency and Remedial Action, CLI-78-6, 7 NRC 400, 410-415 (1978). In addition, the Commission directed the staff to review and evaluate the environmental qualification of all Class IE electrical equipment. CLI-78-6, 7 NRC 400 at 415 (1978). The NRC staff initiated that review by requesting licensees to determine the adequacy of existing documentation on equipment qualification. Circular 78-08. Many licensees failed to devote the level of attention the staff believed was necessary to this issue and requests for licensee action requiring written responses became necessary. IE Bulletins 79-01 and 79-01B were issued to request the necessary information.

Staff's reviews of licensees' submittals in response to 79-01 and 79-01B led to the discovery of more equipment for which qualification had not been established. Licensees either did not have the required documentation to demonstrate qualification or did not include the documentation requested in the bulletins. The documentation that was submitted by the licensees and reviewed by the staff consisted of summary data extracted from qualification test reports and analyses. These licensee submittals prompted UCS to petition the Commission to reconsider its previous denial of UCS's request for reactor shutdowns.

The Commission once again denied UCS's petition, finding that "current Commission requirements . . . and those actions we order today provide reasonable assurance that the public health and safety is being adequately protected during the time necessary for corrective action." *Petition for Emergency and Remedial Action*, CLI-80-21, 11 NRC 707, 709 (1980). Among the actions ordered by the Commission were: (1) The establishment of more specific environmental qualification criteria; and (2) the establishment of a June 30, 1982 deadline for completion by the licensees of the environmental qualification program. The deadline was incorporated into the individual licenses for operating plants by separate orders.

The experience outlined above had shown a generic deadline was necessary to assure a sustained licensee effort to complete the qualification program. The order establishing the deadline did not specify the enforcement action which would be taken in the event of non-compliance. 11 NRC at 712. In particular, the Commission made no finding that failure to meet the deadline would result in unsafe conditions requiring a plant shutdown.

Technical judgments regarding the sufficiency of licensee efforts and safety of continued operation were to be made by the staff on a case-by-case basis as the licensees provided further documentation on environmental qualification. Moreover, the public retained the opportunity pursuant to 10 CFR 2.206 to request NRC enforcement action at any particular plant. *Cf.* 11 NRC at 715. (If an interested person reviews the staff's written judgment on qualification and desires Commission review on that issue, that person may file a petition with the NRC staff pursuant to 10 CFR 2.202 and 10 CFR 2.206).

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[1] 47 FR 28363 (June 30, 1982). The deadline had originally been set by Commission Order, CLI-80-21, 11 NRC 707 (1980).

In response to Memorandum and Order CLI–80–21, and I&E Bulletin 79–01B, licensees continued to submit information on electrical equipment environmental qualification. In early 1981, the staff issued an Equipment Evaluation Report (EER) to each licensee of 71 operating nuclear power plants. The EER identified equipment for which the qualification information submitted in response to IE Bulletin 79–01B did not, in the staff's opinion, provide sufficient assurance of capability to perform required design functions in harsh environments. Under the provisions of 10 CFR 50.54(f), the staff requested each licensee to review the deficiencies enumerated and the ramifications thereof to determine whether safe operation of the plant would be affected. Each licensee responded that continued operation would not be unsafe.

In mid-1981, the staff sent a safety evaluation report (SER) to each licensee. The SER included the EER previously sent to the licensee, an evaluation of the environmental conditions specified by the licensee for environmental qualification purposes, an evaluation of the completeness of the list of safety-related equipment included in the qualification program, and the staff's conclusions with regard to compliance with Commission Memorandum and Order CLI–80–21. The SER also directed each licensee either to provide, within 90 days, documentation of the missing qualification information needed to demonstrate that the equipment with identified deficiencies was qualified or to commit to a corrective action such as requalification, replacement or relocation. If the latter option was chosen, the licensee was directed to provide a justification for continued operation (JCO) until such corrective action could be completed. All licensees provided responses to the mid-1981 SERs within the 90 days specified. These responses included additional technical information; justifications for continued operation or statements that such justifications were not required because in the licensee's opinion the equipment was qualified.

In late 1981, the NRC staff and Franklin Research Center (FRC) began in-depth reviews of all licensee responses to the issues raised in the SERs. This included looking at all of the background documentation provided by licensees in response to previous Commission Orders and SERs. This review was conducted in parallel with the staff's summary reviews for completeness of submittals and was not completed until the spring of 1983.

Evaluation of the information supporting licensee's JCOs was reviewed by the staff with the assistance of a consultant, FRC, in January 1982. The review was conducted over a very short period of time and consisted of checking the licensee's sumbittals to determine whether the justification for continued operation addressed all safety-related equipment which was listed in the plant SER as being of uncertain qualification. Where items of equipment were reported as qualified based on the licensee's reevaluation, no further justification was required at that time.

The FRC reviewed the JCOs using NRC-provided criteria.[2] The NRC project manager for each facility then reviewed the FRC's assessments of these JCOs. As a result of these reviews, FRC placed all responses in one of three categories. Category 1 plants (38) were those which at least asserted that either everything was qualified or provided justification for continued operation in light of the identified deficiencies. Category 2 plants (15) submitted responses which on their faces were not adequate for some reason. For example, they may not have addressed one or more pieces of equipment or deficiency identified in the SER. Category 3 plants (18) were those for which the submittal was completely inadequate. Staff required all Category 2 and 3 plants to submit further information to respond to the SERs and to provide justifications for continued operation. The level of detail contained in those JCO's ranged from summary assessments in some cases to extensive analyses in others. The staff reviewed these additional justifications and found them adequate. By the end of March 1982, then, all plants were in Category 1, pending an in-depth review of the supporting documentation. All licensees had aserted bases for qualification or justification for continued operation. The staff relied *primarily* on the licensees' assurances contained in these submittals in determining not to take immediate further action affecting the operation of the plant.

The volume of the submittals by the licensees showed that the extent of the effort necessary either to estabilsh the qualification of equipment or to replace unqualified equipment had been underestimated and that the June 30, 1982 deadline would not be met. Indeed, a group of NRC licensees petitioned the Commission to extend the June 30, 1982 deadline. The Commission proposed to extend the deadline in the NRC's proposed rule on environmenal qualification published for comment on January 20, 1982. In the rule the Commission proposed to codify the environmental qualification requirements set out in the existing order CLI–80–21. In addition, the proposed rule: (1) Requested licensees to submit analyses justifying continued operation pending completion of the environmental qualification program, and (2) established new compliance deadlines for completion of environmental qualification. 47 FR 2876, 2877–2878, January 20, 1982. The Commission expected the rulemaking, licensees' analyses, and staff's evaluations to be completed well in advance of the June 30, 1982 deadline which was then still in effect.

In late May of 1982 it became clear to the Commission that despite efforts by the staff, the final rule would not be promulgated before the June 30, 1982 deadline. Accordingly, on June 30, 1982, the Commission issued, without notice and opportunity for comment, an immediately effective rule suspending the June 30, 1982 compliance deadline incorporated in each operating license (OL) then in force. The Commission stated that licensees were expected to continue their efforts to meet the environmental qualification criteria standards established in CLI–80–21.

In making the rule immediately effective the Commission relied on the "good cause" exception to the rulemaking requirements of section 4 of the Administrative Procedure Act (APA). In the statement of consideration accompanying that rule, the Commission explained that "licensees should not be placed in jeopardy of enforcement action pending promulgation of a revised schedule for implementation of equipment qualification requirements." 47 FR 28363 (June 30, 1982). The Commission also stated that the staff had received and evaluated each operating plant licensee's justification for continued operation. The statement of considerations added that, from these analyses,[3] the Commission had determined that continued operation of these plants pending completion of the equipment qualification program would not present undue risk to the public health and safety. *Id.*

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[2] The criteria are [either]:

1. Redundant equipment is available to substitute for the unqualified equipment; *or*

2. Another system is capable of providing the required function of the system with unqualified equipment; *or*

The unqualified equipment will have performed its safety function prior to failure; *and*

4. The plant can be safely shutdown in the absence of the unqualified equipment.

[3] The analyses accepted by the staff included licensee's assertions that the equipment was qualified, in their opinion. The review of the documental supporting these assertions was in the process of being reviewed by FRC at the time the interim rule was promulgated.

Subsequently, the General Counsel interpreted this statement on safety of continued operation in a binding formal interpretation of the rule.[4] He found that the Commission's statement was an "explanation that before suspending the compliance deadline the Commission had reviewed the status of environmental qualification at each plant to determine that there were no widespread substantial qualification deficiencies which might indicate a need for industry-wide enforcement action." He noted that the rule did not preclude any interested person from filing a petition under 10 CFR 2.206 by citing specific qualification deficiencies as a basis for challenging the continued operation of a particular plant.

As a result of the Commission's lifting of the June 30, 1982 deadline, the staff conducted another brief review in late 1982, of the evaluations of the licensees' JCOs for the 33 plants for which additional information had previously been supplied to support the JCO review performed in early 1982. These reviews were performed to determine whether the JCOs remained adequate, given the anticipated adoption of the new deadline for qualifying electrical equipment. Staff reaffirmed that the JCOs remained adequate.

By April 1983, the staff and FRC completed their in-depth reviews begun in late 1981 on the licensees' responses to issues raised in the mid-1981 staff SERs for 71 operating reactors. These reviews consisted of an audit of equipment qualification data that the licensees had submitted throughout the course of these reviews. Based on NRC's analyses, the staff issued a second round of safety evaluation reports for each of the 71 operating plants. These SERs adopted the FRC's conclusions.

The SERs identified some deficiencies in licensees' submittals. As a result, staff issued transmittal and clarification letters which set forth deadlines for the licensees to provide the requested equipment environmental qualification information. For items found unqualified, the staff requested JCOs within 10 days of receipt of the SER. The additional information submitted by the affected licensees was reviewed by the staff and the issues resolved on the bases of the licensees': (1) Replacement of equipment, (2) provision of more information showing the equipment was qualified, or (3) provision of a JCO which satisfied the previously established criteria.

None of the items addressed in this round of review had been identified during the January 1982 assessment of the JCOs submitted by the licensees, because the initial reviews were based on summary data, extracted from test reports and analyses, submitted in response to IE Bulletin 79-01B, and on assertions made by the licensees that equipment was qualified. The major difference between the staff's previous findings and the current findings is that the technical bases for the staff's conclusions that certain qualification deficiencies exist have been specified in more detail as a result of FRC's completion of its review of the documentation submitted by licensees to support qualification of the equipment.

An initial examination of the licensees' responses to the second round staff SERs indicates that in a number of instances licensees maintain the position taken in response to the mid-1981 staff SER, *i.e.*, that much of the equipment challenged by the 1982–1983 second round SERs is in fact adequate to perform all required design functions and therefore justification for continued operation is not needed. In some instances there are new or additional test data, and some previously challenged equipment has been shown to be qualified. Finally, staff has found that some aspects of the licensees' responses raise technical issues requiring further analysis for their resolution, such a similarity, qualified life, and test sequences.

On January 6, 1983 the Commission promulgated a Final Rule on Environmental Qualification of Electrical Equipment Important to Safety. 10 CFR 50.49. That rule established general qualification criteria and new deadlines for compliance by 1985 for most plants.

II. The D.C. Circuit Decision

On June 30, 1983 the D.C. Circuit vacated the Commission's decision in promulgating the June 30, 1982 interim rule for failure to provide an opportunity to comment on "the sufficiency of current documentation purporting to justify continued operation pending completion of environmental qualification of safety-related eqipment."[5] The Court also stated that the final rule appears to be partially predicated on the Commission's conclusion that the safety of continued operation had been demonstrated by this documentation.[6] The Court did not criticize the substance of the Commission's determination, noting that "the NRC maintains constant vigilance over the safety of nuclear power plants and monitors compliance with safety requirements at each nuclear reactor on a day-to-day basis."[7]

III. The Current Situation

a. Staff Actions

The staff is currently implementing a program to complete the review of licensees' electrical equipment environmental qualification programs. This effort includes a one day meeting with each licensee of the 71 plants reviewed previously by the staff with the assistance of FRC. Discussion during each meeting includes the licensee's proposed/implemented method of resolution of the environmental qualification deficiencies identified in the 1982–1983 SER, compliance with the requirements set forth in 10 CFR 50.49 (EQ Rule), and justification for continued operation given those equipment items for which environmental qualification is not yet complete. Each licensee is required to document the results of the meeting in a subsequent submittal to the staff. Based on this submittal the staff will prepare and issue a final SER for each of the 71 plants that addresses the environmental qualification of electric equipment important to safety. This effort is scheduled to be completed during 1984.

b. Concerns Raised by Sandia National Laboratories

Sandia National Laboratories (Sandia), an NRC contractor, has recently expressed some concerns to the Commission regarding environmental qualification of electrical equipment. At a Commission meeting on January 6, 1984 Sandia representatives identified what they perceived as shortcomings in qualification methodologies and design bases (acceptance criteria), and the presence of inadequate equipment in plants. The staff prepared responses to the Sandia presentation and subsequently met with Sandia to assure that the concerns had been interpreted and are being adequately addressed. Subsequent to this meeting, Sandia informed the staff that all concerns raised by Sandia regarding environmental qualification of electrical equipment, as defined by 10 CFR 50.49, "have been addressed" in the staff responses. Examples of staff's responses are discussed below.

Shortcomings in qualification methodologies are the subject of continuing research, and Sandia research tests have not demonstrated that nuclear plant safety equipment, properly qualified to existing qualification standards and NRC regulatory requirements, would not perform its safety functions. With regard to shortcomings in design bases (acceptance criteria), the staff is aware of the concerns expressed by Sandia and is addressing them in its reviews of licensee's equipment environmental qualifications programs. For example,

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[4] 10 CFR 50.3.

[5] Slip op. at 27–28.

[6] *Id.* at 376.

[7] *Id.* at 383.

Sandia believes that there may be shortcomings in the insulation resistance and leakage current values used as acceptance criteria for terminal blocks. Staff reviews these values when evaluating the environmental qualification of terminal blocks and requires that licensees either justify the values chosen for each particular use or provide justifications for continued operation with current values or change the values by using different terminal blocks.

The staff is also aware of Sandia's concern that some unqualified equipment remains in nuclear plants. These concerns are also being addressed by the staff in its review process, and are being resolved on a case-by-case basis. For example, Sandia reported that pressure switches failed when exposed to a high-pressure and steam-flash spray environment. Staff noted that no claims have been made that these switches are qualified for such an environment. These switches are not to be used in applications where they would experience such conditions. Staff takes into account such considerations when evaluating licensees' and applicants' qualification programs. In addition, an I&E information notice has been issued to licensees describing the results of the Sandia test of these switches, and stating the staff's position that such switches are not to be used where they would experience such environmental conditions.

A number of IE Information Notices have identified specific concerns with qualification of some components. All equipment which has not been shown to be qualified must either be demonstrated to be qualified, be replaced or relocated, or a justification for continued operation provided. Therefore, while Sandia identified potential generic issues with some equipment components, the staff has concluded that none of the issues identified would warrant generic safety-related enforcement action at this time.

c. Sandia Annual Report

Sandia recently issued its Fiscal Year 1983 annual report on the Environmental Qualification Inspection Program of organizations involved in equipment qualification efforts. The report provides examples of qualification problems to highlight issues raised during those inspections for which Sandia provided technical consultant support to the staff. The Sandia concerns discussed during the Commission Meeting of January 6, 1984 were derived in part from the inspection results described in this annual report. The report illustrates some industry practices that could be improved and identifies areas where additional NRC guidance may be useful. The staff discussed the contents of this report with Sandia, and has concluded, that the report does not suggest that generic safety related enforcement action is necessary as a result of Sandia's concerns. Where inspections or reports received by the staff have indicated reasons to question qualification of equipment, the staff has required licensees to take actions including the replacement of equipment or provision of justifications for continued operation.

d. UCS Petition

On February 7, 1984, the Union of Concerned Scientists (UCS) petitioned the Commission to take certain actions regarding some recent developments in the environmental qualification of electrical equipment. These developments were: (1) Recent notices from the Commission's Office of Inspection and Enforcement to utility licensees and Atomic Safety and Licensing Boards reporting deficiencies in the environmental qualification of a few components commonly used in licensed facilities; (2) a report by the Sandia National Laboratory (Sandia) questioning the validity of certain environmental qualification tests; and (3) recent comments by Sandia to the Commission regarding Sandia's coordination with the NRC staff on research on environmental qualification. In UCS's view, these developments indicate that the NRC staff has failed to handle properly the Commission's environmental qualification program.

Accordingly, UCS has requested the Commission to review the staff's conduct of the environmental qualification program and to direct the staff to address the matters identified by the UCS. Specifically, UCS has requested that the Commission, among other things, direct staff to: (1) Obtain and evaluate justifications for continued operation for plants using the deficient components reported by the Office of Inspection and Enforcement; (2) review the generic implications of Sandia's concerns about tests of environmental qualification; and (3) direct the staff to require utilities to justify continued operation promptly after receiving notices of environmental deficiencies. UCS has also requested Commission to direct holders of construction permits to cease construction involving deficient components until these components are qualified and to direct Atomic Safety and Licensing Boards not to authorize issuance of operating licenses until deficient components have been qualified or replaced.

"The Commission is currently considering UCS's Petition in light of this Policy Statement and accompanying Notice of Proposed Rulemaking."

IV. Current Commission Policy

As indicated above, over the past several years power reactor licensees environmental qualification has improved with time.

The environmental qualification problem at individual plants is too varied to warrant generic safety-related enforcement action. Instead it has been and continues to be the Commission's policy to monitor closely each licensee's progress on environmental qualification and to take enforcement action for safety reasons on a case-by-case basis. To this end, the staff intends to follow the guidelines described below in conducting its individual reviews.

(1) Evidence of environmental qualification deficiencies which would prevent a plant from going to and maintaining a safe shut down condition in the event of a design basis accident will be the basis for enforcement action. Enforcement action will generally not be taken where a licensee has asserted that operation will not involve undue risk, unless the staff has determined that continued operation cannot be justified. The Commission recognizes that this policy will permit power plants to continue to operate where licensees' assertions of qualification are still undergoing staff review. The Commission believes that this course of action is required unless the staff concludes that the justification for continued operation (JCO) reveals a deficiency requiring shutdown.

There are persuasive technical and policy reasons why licensees' assertions have devoted extensive efforts to comply with the Commission's environmental qualification requirements. Progress on licensee compliance has been monitored by the NRC, and NRC's own review efforts have been extensive. There have been two rounds of progressively more detailed safety evaluations for all operating reactors and additional reviews of the various rounds of JCOs.

The environmental qualification of electrical equipment throughout a nuclear power plant to standards higher than those existing at the time the plant was licensed has proved to be a complex and difficult task. Thousands of individual pieces of equipment must be identified; qualification data for this equipment must be examined and compared to applicable standards; test programs must be carried out where data is lacking; and equipment must be replaced if necessary. In many cases equipment can be replaced only when the plant is shut down. During such downtime licensees have many tasks to accomplish in addition to equipment qualification efforts. Delays may also result from the unavailability of qualified equipment and difficulties in testing existing equipment. The performance of industry in the area of and analyses may be relied on pending independent NRC staff review. The Commission notes that licensees received their operating licenses after extensive staff reviews including, in many cases, adjudicatory hearings. These proceedings include a determination that the licensee is technically capable of operating the plant safely. The mere existence of a safety uncertainty that needs to be evaluated does not, in the Commission's view, provide a basis for shutdown or similar enforcement action. It is the purpose of the case specific NRC staff reviews to determine whether, in any given case, sufficient evidence exists that would support enforcement action. In addition to confirmation of significant safety deficiencies, a persistent refusal by a licensee to cooperate adequately with the Commission's environmental qualification program would be a basis for enforcement action. But the Commission's experience with the ongoing review of licensee progress on environmental qualification, as described above, has not suggested any general refusal on the part of licensees to make reasonable efforts. Thus the June 30, 1982 deadline has served its intended purpose to assure reasonable licensee efforts and therefore need not be enforced. The June 30, 1982 deadline was not a generic cut-off date for operation. Rather, the June 30, 1982 deadline was established to force licensee completion of the environmental qualification program in a reasonable time. Since the deadline itself has proved unrealistic, and since licensees are making reasonable efforts to achieve environmental qualification, the Commission has concluded that retention of the June 30, 1982 deadline is neither necessary nor desirable as a general matter. The safety of operation of plants continues to be reviewed on an individual basis. The Commission's authority to take individual enforcement action for safety reasons, including shutdowns, is not dependent on the presence in individual licenses of a requirement for environmental qualification by a certain date.

(2) In the interim, if any person believes that there is information indicating that specific qualification deficiencies or other reasons related to environmental qualification require enforcement action at a particular plant, such information should be presented to the Director, NRR pursuant to 10 CFR 2.206. Within 45 days of the close of the comment period in the rulemaking initiated today by companion notice, the Director, NRR will report to the Commission on any generic issues raised by any comments on plant specific qualification issues.

The Commission's final rule is still in effect. That rule established new compliance deadlines which have not yet passed. It was the Commission's intention that the compliance schedule in the final rule should supersede previous deadlines. Because the Court's decision in *UCS* v. *NRC* may have created uncertainty regarding the current status of the June 30, 1982 compliance deadline in each facility operating license, the Commission will conduct a notice and comment rulemaking proceeding to delete formally that deadline from all licenses.

Dated at Washington, DC, this 1st day of March, 1984.

Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission.

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49 FR 12335
Published 3/29/84

NRC Response to Accidents Occurring During the Transportation of Radioactive Material; General Statement of Policy

AGENCY: Nuclear Regulatory Commission.

ACTION: General Statement of Policy.

SUMMARY: The Nuclear Regulatory Commission (NRC) has defined in a general policy statement its role in responding to accidents and incidents related to the transportation of nuclear materials. The purpose of the policy statement is to state clearly the extent of the NRC's participation and involvement in responding to such a transportation accident or incident.

EFFECTIVE DATE: March 29, 1984.

FOR FURTHER INFORMATION CONTACT: Dr. Justin T. Long, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone (301) 427-4135

SUPPLEMENARY INFORMATION:

Background

The Nuclear Regulatory Commission (NRC), under the Atomic Energy Act of 1954, as amended (42 U.S.C. Chapter 23) and section 201 of the Energy Reorganization Act of 1974, as amended (42 U.S.C. 5841), is authorized to license and regulate the receipt, possession, use, and transfer of "byproduct material," "source material," and "special nuclear material" (as defined in 42 U.S.C. 2014). The NRC authority to license air shipment of plotonium is further governed by Pub. L. 94-79. Pertinent NRC regulations are contained in 10 CFR Parts 30, 40, 70, 71, and 73.

The U.S. Department of Transportation (DOT), under the Dangerous Cargo Act (R. S. 4472, as amended, 46 U.S.C. 170), Title VI and 902(h) of the Federal Aviation Act of 1958 (49 U.S.C. 1421-1430 and 1472(h)), the Department of Transportation Act (49 U.S.C. 101, *et seq.*) and the Hazardous Materials Transportation Act (49 U.S.C. 1801-1812), is required to regulate safety in the transportation of hazardous materials, including radioactive materials. Pertinent DOT regulations are contained in 49 CFR Part 100 to 178.

The roles in regulatory responsibility of NRC and DOT have been delineated in a Memorandum of Understanding (MOU) between the two agencies dated June 8, 1979 (44 FR 38690). The MOU does not define the specific responsibilities of each agency in responding to transportation accidents or incidents. However, in all accidents, incidents, and instances of actual or suspended leakage involving packages of radioactive material regulated by the NRC, the MOU assigns to NRC the responsibility to act as lead agency for investigating the cause of the leakage and preparing a report of the investigation.

The Federal Emergency Management Agency (FEMA) is responsible for preparing a Federal Radiological Emergency Response Plan (FRERP). On December 23, 1980, FEMA published a "Master Plan" for commercial nuclear power plant accidents (45 FR 84910). Development of the FRERP, which is scheduled for completion in 1984, entals revision of the "Master Plan," including its expansion to incorporate provisions for responding to all types of peacetime radiological emergencies including transportation accidents. Availability of planning guidance for developing the FRERP was noticed in the **Federal Register** on April 28, 1983 (48 FR 19229). The FRERP will be based on the planning guidance and on the results of a Full Field Exercise conducted in the vicinity of the St. Lucie nuclear power plant in March 1984.

The response to transportation accidents is less structured than the radiological emergency response to accidents at licensed sites because of the uncertainties surrounding (1) the location where the accident occurs, (2) the diversity of authority of those who will be responding, and (3) the likely limited radiation knowledge of the first-on-scene responders (who are usually local officials). The states have the primary responsibility for protecting the health and safety of the citizens from public hazards. Recognition of the responsibilities for radiation hazards is reflected by the existence of an appropriately designated state agency chartered with the responsibility of responding to radiological emergencies, The existing Memorandum of Understanding between the DOT and the NRC (mentioned above) assigns NRC the responsibility for the regulation and certification of shipping containers for fissile materials and for other radioactive materials (other than low specific activity materials) in quantities exceeding Type A limits as defined in 10 CFR Part 71. The MOU assigns DOT the responsibility for regulation of most other aspects of nuclear transportation activities. DOT operates a National Response Center which serves to relay information concerning transportation incidents involving hazardous materials. DOT regulations require a carrier, at the earliest practicable moment, to give notice to the National Response Center after an incident occurs during the course of transportation in which, among other things, fire, breakage, spillage, or suspected radioactive contamination occurs involving shipment of radioactive material. Each notification of a transportation incident of any kind is relayed by the National Response Center to the Regional Office of the Environmental Protection Agency (EPA) for incidents on land or to the U.S. Coast Guard Captain of the Port for incidents in navigable waters. When a reported incident is known to involve radioactive material, notification is also made to the Regional Coordinating Office for Radiological Assistance of the U.S. Department of Energy (DOE) and to the Regional Office of the Nuclear Regulatory Commission. NRC my also become aware of a transportation incident through other channels, such as the shipper, the carrier, or the police or highway patrol.

DOE has stated that DOE's involvement is the maintenance, at about 30 sites, of teams of technically trained nuclear and transportation specialists available to assist states, upon request, by providing desired advice and counsel in areas where states may need assistance. Such teams are highly professional and are equipped to provide analytical and diagnostic support, but not to become involved in cleanup activities. Such teams operate under the DOE Radiological Assistance Program or the Federal Radiological Monitoring and Assessment Plan (DOE coordinated).

The Commission invites all interested persons who desire to submit written comments or suggestions on this general statement of policy to send them to the Secretary of the Commission, United States Nuclear Regulatory Commission, Washington, D.C. 20555. Attention: Docketing and Service Branch by July 27, 1984.

Consideration will be given to such submissions in connection with possible future revision of the stated policy. Copies of comments received may be examined at the Commission's Public Document Room, 1717 H Street N.W., Washington, D.C.

Statement of NRC Policy

In any accident or incident occurring in connection with the transportation of radioactive material in which a report is required to be sent to the National Response Center by DOT regulations in 49 CFR 171.15, NRC radiation safety assessment actions will consist of the following.

—Call the agency designated by the affected State to respond to transportation accidents involving radioactive materials as soon as practicable to ensure that agency has been informed of the incident. (The State government is responsible for assuming control of the accident scene to protect the health and safety of the public.)

—Offer NRC technical assistance in the form of information, advice, and evaluations to the State at the time the initial notification is made to the appropriate State agency.

—Assure awareness of the incident by the DOE and other affected agencies, including any agencies specifically designated by the Federal Emergency Management Agency.

—Maintain awareness of the situation until normal conditions are restored at the scene of the accident.

—Provide information on packaging characteristics in response to any query regarding NRC-approved packages.

—Respond to requests for information on NRC activities in connection with the event. Requests for specific information on an accident normally will be referred to the appropriate State agency, or to the DOE if the situation relates to DOE activities.

—If the shipper is an NRC licensee, ensure that the shipper provides complete and accurate information concerning the radioactive material and details of the shipment to emergency response personnel.

—In accordance with the NRC–DOT Memorandum of Understanding, act as lead agency for investigating all accidents, incidents, and instances of actual or suspected leakage involving packages of radioactive material regulated by the NRC. Any NRC personnel at the scene of a transportation accident will notify the on-scene coordinator of his or her presence and make clear that, unless NRC assistance is requested by the on-scene coordinator, NRC activities will be primarily limited to information collection.

—Provide recommendations to emergency response personnel on radiological issues if NRC assistance should be requested by the on-scene coordinator or if a need is recognized by NRC personnel.

The policy here set forth relates solely to radiological concerns. Responding to any attempt to steal or sabotage a shipment of nuclear material is a responsibility of the Federal Bureau of Investigation (FBI) as delineated in the NRC/FBI Memorandum of Understanding dated April 27, 1979, and published December 20, 1979, at 44 FR 75535.

Dated at Washington, D.C., this 23rd day of March 1984.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission.

49 FR 24111
Published: 6/12/84

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10 CFR Parts 2 and 50

Financial Qualifications Statement of Policy

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Policy statement.

SUMMARY: In response to the issuance of the mandate of the U.S. Court of Appeals for the D.C. Circuit in *New England Coalition on Nuclear Pollution* v. *NRC*, 727 F.2d 1127 (D.C. Cir. 1984), the Nuclear Regulatory Commission issues a statement of policy clarifying its response to the Court's remand.

FOR FURTHER INFORMATION CONTACT: Carole F. Kagan, Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555; phone (202) 634–1493.

SUPPLEMENTARY INFORMATION: On February 7, 1984, the U.S. Court of Appeals for the District of Columbia Circuit granted a petition for review by the New England Coalition on Nuclear Pollution (NECNP) which challenged the Commission's March 31, 1982, rule eliminating case-by-case financial qualification review requirements for electric utilities. *New England Coalition on Nuclear Pollution* v. *NRC*, 727 F.2d 1127 (D.C. Cir. 1984). The Court found that the rule was not adequately supported by its accompanying statement of basis and purpose and remanded to the agency, but did not explicitly vacate the rule.

In response to ths decision, the Commission initiated a new financial qualification rulemaking to clarify its position on financial qualification reviews for electric utilities. 49 FR 13044 (1984). One of the points focused upon in the Court's decision was the Commission's observation in the Statement of Considerations for the March 31, 1982 rule that utilities encountering financial difficulties in the past *during construction* have chosen to abandon or postpone projects rather than cut corners or safety. The Court believed that such actions by some utilities do not guarantee that all financially troubled utilities would follow the same course. The revised proposed rule would eliminate financial review only at the operating license stage. The question of reasonable assurance of adequate construction funding can be an issue only at the construction permit stage. Thus, the Commission's current rulemaking is responsive to the Court's concern by maintaining the financial qualifications review for construction permit applicants.

The Court was also troubled by what it perceived to be an inconsistency between elimination of the review only for electric utilities and the Commission's observation that financial qualifications reviews are unnecessary because it finds no link between financial qualifications and safety. This observation is not relied on in the new proposed rule. Instead, the rule is premised on the assumption that, at the operating license level, regulated utilities will be able to cover the costs of operation through the ratemaking process.

In the interim, the Court's mandate has issued. The mandate contained no guidance other than that furnished in the Court's opinion. The Commission has concluded that the issuance of the mandate does not have the effect of restoring the previous regulation under which financial qualification review was required as a prerequisite for a reactor construction permit or operating license. In remanding the rule to the Commission without explicitly vacating the rule, the Court cited *Williams* v. *Washington Metropolitan Area Transit Commission*, 415 F.2d 922 (D.C. Cir. 1968) (*en banc*), *cert. denied* 393 U.S. 1081 (1969). *Williams* does not require that the agency action be vacated on remand. In another situation where the D.C. Circuit remanded a set of rules to an agency for an adequate statement of basis and purpose, the Court allowed the old rules to stand pending agency action to comply with the Court's mandate. *Rodway* v. *United States Department of Agriculture*, 514 F.2d 809 (D.C. Cir. 1975). The Commission is complying with the Court's mandate by repromulgating its financial qualifications rule in a manner responsive to the Court's concern. The Commission anticipates that the new rule eliminating financial review at the operating license stage only will soon be in place. While there are no construction permits proceedings now in progress, there are several ongoing operating license proceedings to which the new rule will apply. It would not appear reasonable to construe the Court's opinion as requiring that the Commission instruct its adjudicatory panels in these proceedings to begin the process of accepting and litigating financial qualifications contentions, a process which would delay the licensing of several plants which are at or near completion, only to be required to dismiss the contentions when the new rule takes effect in the near future.

Accordingly, the March 31, 1982 rule will continue in effect until finalization of the Commission's response to the Court's remand. The Commission directs its Atomic Safety and Licensing Board Panel and Atomic Safety and Licensing Appeal Panel to proceed accordingly.

Commissioner Gilinsky did not participate in this decision. Commissioner Asselstine's dissent from this decision and the separate views of Chairman Palladino and Commissioners Roberts and Bernthal follow.

Separate Statement of Chairman Palladino

The Court of Appeals remanded the financial qualifications rule to the Commission. The Commission promptly initiated rulemaking to address the deficiencies identified by the Court. It then faced the question of what to do about financial qualifications in pending operating license cases. The Court's opinion did not say that the rule was "vacated." Thus, the Commission was presented with a question of interpretation of the Court's opinion. The Commission adopted the view that the Court's opinion could reasonably be interpreted as not vacating the rule for operating license reviews.

The Commission has not sought to flout the Court or escape its mandate. The Commission has attempted to be responsive to the Court's opinion and, at the same time, has sought to avoid unnecessary disruption of its licensing and regulatory program. It interpreted the Court's opinion with full recognition that the Court would correct its interpretation if the Court had intended to vacate the rule.

Separate Statement of Commissioner Roberts

I join in the separate statement of Chairman Palladino. In addition, I would point out that, of the five contentions perceived by the Court to have been raised by the petitioners' challenge, the Court agreed only with the last—that the rule is not supported by its accompanying statement of basis and purpose. In discussing the grounds for its remand, the Court addressed only its basis for disagreement with that portion of the rule that would eliminate a financial qualifications review in connection with consideration of applications for construction permits. The Court concluded that, in refusing to consider, in a vacuum, the general ability of utilities to finance the *construction* of new generation facilities, the Commission had abandoned what seemed to the Court "the only rational basis enunciated for generally treating public utilities differently for the purpose at hand."

The Court apparently did not focus on the rationality of the Commission's basis for treating public utilities differently for the purpose of considering applications for operating licenses. Thus, it appears unlikely that the Court intended, or had any reason, to vacate that portion of the rule eliminating a financial qualifications review in connection with consideration of applications for operating licenses.

Separate Views of Commissioner Bernthal

I believe that the Commission's action in instituting the recent rulemaking proceeding is fully responsive to the Court's mandate. As the Commission's policy statement indicates, the Court's criticism of the Commission's rationale for the March 1982 rule related solely to issues which, even under the pre-1982 rule, would be litigable only at the construction permit stage of review. Therefore, even if one assumes for the sake of argument that the Court vacated the rule insofar as it found the Commission's rationale inadequate, the Commission took prompt action in modifying the 1982 regulation by proposing a rule which woud reinstate financial qualifications reviews for all construction permit applicants.

I have based my decision on a plain reading of the opinion of the Court, wherein the Court listed the five contentions raised by the appellants, and noted "We agree with the last [of the five contentions]." That is, the Court held that "the rule is not supported by its accompanying statement of basis and purpose * * *" and accordingly *remanded* the rule to the agency. Given that holding, I believe the Commission's action is directly and precisely responsive to the decision of the Court. It is unfortunate that the Commission was required to consider elaborate arguments and interpretations based on legal precedent to resolve what should have been a straightforward matter.

I concur in the views of the Chairman and Commissioner Roberts.

Separate Views of Commissioner Asselstine

The Commission's policy statement is both shortsighted and most likely illegal. The Commission is in effect betting that the D.C. Circuit will not now act to make it *very* clear that the Commission's "new" financial qualifications rule has indeed been vacated, and that the Commission must re-open all those proceedings in which the rule was used to exclude financial qualification contentions. I choose not to join the majority in this course because I believe that the Court's previous decision effectively vacates the Commission's 1982 financial qualifications rule. Moreover, I believe that the Commission's approach risks in the long run serious disruptions and delays to pending cases.

Our Executive Legal Director, our General Counsel and now the Department of Justice have all advised the Commission that the decision of the D.C. Circuit did indeed vacate the Commission's 1982 financial qualifications rule. They told us that this means that the old rule governs until the Commission can substitute a valid new rule removing the issue from proceedings. The best that our legal advisors could say about the course being pursued by the Commission is that the Commission's position is "colorable" given the absence of explicit language in the Court's decision vacating the rule. They indicated, however, that they would not advise taking this course because of the significant litigation risk involved. My reading of the case law leads me to agree with their conclusion.

To deal with this situation, the General Counsel proposed an interim policy statement which would have enabled the boards and parties to resolve the financial qualifications issue in individual cases in an expeditious manner. There would have been some unavoidable, short-term delay and some inconvenience in a few cases. However, had the Commission acted in a timely manner to adopt that policy statement when it was proposed a month ago, much of that inconvenience and delay would be over by now.

Instead, the Commission has chosen to ignore the advice of all of its legal advisors and to act as if the 1982 rule were still valid. By pursuing this course, the Commission risks reaction by the D.C. Circuit which would not only reject the Commission's erroneous interpretation of the Court's previous decision but which would also set out precisely what the Commission must do in the case of those proceedings decided under the invalid rule. Any flexibility in dealing with these proceedings could well be lost to the Commission, and serious delays and disruption could result if the Court decides several months from now that all of these proceedings must be reopened.

Moreover, it is not clear that there exists an adequate factual basis to support a new rule eliminating financial qualification issues from all nuclear powerplant operating license proceedings. For example, even if it is possible to demonstrate that electric utilities receive routine approval of funding requests to cover the cost of operating a nuclear powerplant—an essential element in the justification for the Commission's new proposed financial qualification rule, this does not necessarily assure that these funds will be used by the utility for meeting operating plant safety needs. The financial difficulties facing several electric utilities in meeting the cost of ongoing construction programs and in providing an adequate rate of return on investment are widely publicized. It is likely that in such cases these factors can create pressures on the utility to reallocate operating funds to other competing functions. In such circumstances, ratemaking decisions sufficient to cover operating expenses alone would not necessarily provide an adequate justification for excluding financial qualification issues from operating license proceedings.

Perhaps most disturbing of all is the Commission's willingness in this case, as well as in some other recent decisions, to take what are at best questionable legal positions for the sake of gaining a perceived short-term benefit. This approach does everyone involved in our licensing proceedings a disservice and has several unfortunate consequences. Such procedural shortcuts can ultimately be very disruptive to many ongoing licensing proceedings if a court rejects the Commission's approach months or years later, when the number of affected proceedings has grown substantially. Furthermore, continually taking questionable legal positions can easily lead to a much more searching and critical attitude on the part of reviewing courts, and to adverse decisions that can seriously restrict agency flexibility in dealing with future cases. Finally, the Commission's approach simply reinforces the belief of many that this agency will go to any lengths to deny members of the public a fair opportunity to raise issues in our licensing proceedings and to have those issues fully and fairly litigated.

Signed in Washington, D.C., this 7th day of June 1984.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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49 FR 36032
Published 9/13/84

Statement of Policy; Investigations, Inspections, and Adjudicatory Proceedings

On August 5, 1983, the Commission set forth interim procedures for handling conflicts between the NRC's responsibility to disclose information to adjudicatory boards and parties, and the NRC's need to protect investigative material from premature public disclosure. "Statement of Policy—Investigations and Adjudicatory Proceedings," 48 FR 36358 (August 10, 1983).

Those interim procedures called for the NRC staff or Office of Investigations (OI), when it felt disclosure of information to an adjudicatory board was required but that unrestricted disclosure could compromise an inspection or investigation, to present the information and its concerns about disclosure to the board *in camera*, without disclosure of the substance of the information to the other parties. A board decision to disclose the information to the parties was appealable to the Commission, and the board was not to order disclosure until the Commission addressed the matter.

That Statement of Policy was to remain in effect until the Commission received and took action on the recommendations of an internal NRC task force established to develop guidelines for reconciling these conflicts in individual cases. The Commission in that Statement also requested public comments on the propriety and desirability of *ex parte in camera* presentation of information to a board, and suggestions for any better alternatives.

The Task Force submitted its report to the Commission on December 30, 1983. A copy of that report will be placed in the Commission's Public Document Room. The Task Force approved the principles discussed in the Commission's earlier Statement of Policy, and made several recommendations intended to define specifically the responsibilities of the boards, the staff, and OI in presenting disclosure issues for resolution.

The Task Force recommended that the final Policy Statement explain that full disclosure of material information to adjudicatory boards and the parties is the general rule, but that some conflicts between the duty to disclose and the need to protect information will be inevitable. The Task Force further recommended that issues regarding disclosure to the parties be initially determined by the adjudicatory boards with provision for expedited appellate review, and that procedures for the resolution of such conflicts be established by rule. Finally, the Task Force suggested that existing board notification procedures should remain unaffected by the Policy Statement, and that those procedures and Commission guidelines for disclosure of information concerning investigations and inspections should apply to all NRC offices. Those recommendations have been incorporated in this Statement.

In addition, two comments were submitted by members of the public.

One commenter stated that the withholding of information from public disclosure should be confined to the minimum essential to avoid compromising enforcement actions, and that appropriate representatives of each party should be allowed to participate under suitable protective orders in any *in camera* proceeding except in the most exceptional cases.

The other commenter maintained that an *in camera* presentation to the board with only one party present is undesirable and violates the *ex parte* rule. That commenter suggested an alternative of having the attorneys or authorized representatives of parties who have signed a protective agreement present at any *in camera* presentation, with appropriate sanctions for violating the protective agreement.[1]

The Commission, after considering these comments and the report of the Task Force, has decided that it would be appropriate, in order to better explain the Commission's policy in this area, to provide the following explanation of the conflict between the duty to disclose investigation or inspection information to the boards and parties and the need to protect that information:

All parties in NRC adjudicatory proceedings, including the NRC staff, have a duty to disclose to the boards and other parties all new information they acquire which is considered material and relevant to any issue in controversy in the proceeding. Such disclosure is required to allow full resolution of all issues in the proceeding. The Commission expects all NRC offices to utilize procedures which will assure prompt and appropriate action to fulfill this responsibility.

However, the Commission recognizes that there may be conflicts between this responsibility to provide the boards and parties with information and an investigating or inspecting office's need to avoid public disclosure for either or both of two reasons: (1) To avoid compromising an ongoing investigation or inspection; and (2) to protect confidential sources. The importance of protecting information for either of these reasons can in appropriate circumstances be as great as the importance of disclosing the information to the boards and parties.

With regard to the first reason, avoiding compromise of an investigation or inspection, it is important to informed licensing decisions that NRC inspections and investigations are conducted so that all relevant information is gathered for appropriate evaluation. Release of investigative material to the subject of an investigation before the completion of the investigation could adversely affect the NRC's ability to complete that investigation fully and adequately. The subject, upon discoving what evidence the NRC had already acquired and the direction being taken by the NRC investigation, might attempt to alter or limit the direction or the nature or availability of further statements or evidence, and prevent NRC from learning the facts. The failure to ascertain all relevant facts could itself result in the NRC making an uninformed licensing decision. However, the need to protect information developed in investigations or inspections usually ends once the investigation or inspection is completed and evaluated for possible enforcement action.

The second reason for not disclosing investigative material—to protect confidential sources—has a different basis. Individuals sometimes present safety concerns to the NRC only after being assured that their individual identity will be kept confidential. This desire for confidentially may arise for a number of reasons, including the possibility of harassment and retaliation. Confidential sources are a valuable asset to NRC inspections and investigations. Releasing names to the parties in an adjudication after promising confidentially to sources would be detrimental to the NRC's overall inspection and investigation activities because other individuals may be reluctant to bring information to the NRC. However, the need to protect confidential sources does not end when the investigation or inspection is completed and evaluated for possible enforcement action.

By this Policy Statement, the Commission is not attempting to resolve the conflict that may arise in each case between the duty to disclose information to the boards and parties and the need to protect that information or its source. The resolution of actual conflicts must be decided on the merits of each individual case. However, the Commission does note that as a general rule it favors full disclosure to the boards and parties, that information should be protected only when necessary, and that any limits on disclosure to the parties should be limited in both scope and duration to the minimum necessary to achieve the purposes of the non-disclosure policy.

The purpose of this Policy Statement is to establish a procedure by which the conflicts can be resolved. The Policy Statement takes over once a determination has been made, under established board notification procedures, that information should be disclosed to the boards and public, but OI or staff believes that the information should be protected. In those cases the Commission has decided that the only workable solution to protect both interests is to provide for an *in camera* presentation to the board by the NRC staff or OI, with no party present. Any other procedure could defeat the purpose of non-disclosure and might actually inhibit the acquisition of information critical to decisions. Allowing the other parties or their representatives to be present in all cases, even under a protective order, could breach promises of confidentiality or allow the subject of an investigation to prematurely acquire information about the investigation. We note in this regard the difficulties of attempting to prevent a party's representative from talking to his client about the relevance of the information and how to respond to it, even under a protective order.

The Commission believes that the boards, using the procedures established in this Policy Statement, can resolve most potential disclosure conflicts once they have been advised of the nature of the information involved, the status of the inspection or investigation, and the projected time for its completion. In many of the cases when the procedures in this Policy Statement are triggered by a concern for premature public disclosure, it may be possible for boards to provide for the timely consideration of relevant matters derived from investigations and inspections through the deferral or rescheduling of issues for hearing. In other instances, the boards may be able to resolve the conflict by placing limitations on the scope of disclosure to the parties, or by using protective orders.

The Commission wishes to emphasize that these procedures do not abrogate the well-established principle of administrative law that a board *may not* use *ex parte* information presented *in camera* in making licensing decisions. These procedures are designed to allow the boards to determine the relevance of material to the adjudication, and whether that information must be disclosed to the parties, and, if disclosure is required, to provide a mechanism for case management both to protect investigations and inspections and to allow for the timely provision of material and relevant information to the parties. As such these procedures are analogous to the procedures for resolving disputes regarding discovery, *see, e.g.*, 10 CFR 2.740(c), and do not violate the prohibition in 10 CFR 2.780 against *ex parte* discussion of substantive matters at issue.

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[1] Both comments also included suggestions regarding matters beyond the scope of this Policy Statement, which is concerned only with establishing a procedure to handle conflicts between the duty to disclose information to the boards and parties and the need to protect that information. For instance, one suggestion was that the NRC impose a more stringent standard in deciding whether information warrants a board notification. Another recommended that the NRC improve the quality of its investigations.

In accord with the above discussion, the Commission has decided that the procedures to be followed, where there is a conflict between the need for disclosure to the board and parties and the need to protect an investigation or inspection, will include *in camera* presentations by the staff or OI. However, because this procedure represents a departure from normal Commission procedure, it is the Commission's view that the decision should be implemented by rulemaking. Accordingly, the Commission directs the NRC staff to commence a rulemaking on the matter.

Until completion of the rulemaking, the following will control the procedures to be followed in resolving conflicts between the duty to disclose to boards and the need to protect information developed in investigation or inspection:

1. Established board notification procedures should be used by staff or OI to determine whether information in their possession is potentially relevant and material to a pending adjudicatory proceeding.[2] The general rule is that all information warranting disclosure to the boards and parties, including information that is the subject of ongoing investigations or inspections, should be disclosed, except as provided herein.

2. When staff or OI believes that it has a duty in a particular case to provide an adjudicatory board with information concerning an inspection or investigation, or when a board requests such information, staff or OI should provide the information to the board and parities unless it believes that unrestricted disclosure would prejudice an ongoing inspection or investigation, or reveal confidential sources. If staff or OI believes unrestricted disclosure would have these adverse results, it should propose to the board and parties that the information be disclosed under suitable protective orders and other restrictions, unless such restricted disclosure would also defeat the purpose behind non-disclosure. If staff or OI believes that any disclosure, however restricted, would defeat the purpose behind non-disclosure, it shall provide the board with an explanation of the basis of its concern about disclosure and present the information to the board, *in camera*, without other parties present. A verbatim transcript of the *in camera* proceeding will be made.[3]

All parties should be advised by the board of the conduct and purpose of the *in camera* proceeding but should not be informed of the substance of the information presented. If, after such *in camera* presentation, a board finds that disclosure to other parties under protective order or otherwise is required (*e.g.*, withholding information may prejudice one or more parties or jeopardize timely completion of the proceedings, or the board disagrees that release will prejudice the investigation), it shall notify staff or OI of its intent to order disclosure, specifying the information to be provided, the terms of any protective order proposed, and the basis for its conclusion that prompt disclosure is required. The staff or OI shall provide the board within a reasonable period of time, to be set by the board, a statement of objections or concurrence. If the board disagrees with any objection and the disagreement cannot be resolved, the board shall promptly certify the record of the *in camera* proceeding to the Commission for resolution of the disclosure dispute, and so inform the other parties. Any licensing board decision to order disclosure of the identify of a confidential source shall be certified to the Commission for review regardless of whether OI and staff concur in the disclosure.[4] The board's decision shall be stayed pending a Commission decision. The record before the Commission shall consist of the transcript, the board's Notice of Intent to require disclosure and the objections of Staff or OI. Staff or OI may file a brief with the Commission within ten days of filing a statement of objections with the board. The record before the Commission, including staff or OI's brief, shall be kept *in camera* to the extent necessary to protect the purposes of non-disclosure.

The Commission recognizes that no other party may be in a position effectively to respond to staff or OI's brief because the proceedings have been conducted *in camera*. However, in those cases where another party feels that it is in a position to file a brief, it may do so within seven days after staff or OI files its brief with the Commission.

3. Staff or OI shall notify the board and, as appropriate, the Commission, if the objection to disclosure to the parties of previously withheld information, or any portion of it, is withdrawn. Unless the Commission has directed otherwise, such information—with the exception of the identities of confidential sources—may then be disclosed without further Commission order.

4. When a board or the Commission determines that information concerning a pending investigation or inspection should not be disclosed to the parties, the record of any *in camera* proceeding conducted shall be deemed sealed pending further order. That record will be ordered included in the public record of the adjudicatory proceeding upon completion of the inspection or investigation, or upon public disclosure of the information involved, whichever is earlier, subject to any privileges that may validly be claimed under the Commission's regulations, including protection of the identify of a confidential source. Only the Commission can order release of the identify of a confidential source.

Dated at Washington, D.C. this 7th day of September, 1984.

Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

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[2] While this Statement refers only to staff and OI who are the organizations principally involved, the statement will apply to any other offices of the Commission which may have the problem.

[3] Nothing in this Statement prohibits staff on OI from sharing information.

[4] The Commission has decided to review any licensing board decision ordering disclosure of the identify of a confidential source because of the importance to the Commission's inspection and investigation program of protecting the identity of confidential sources.

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49 FR 45112
Published 11/15/84

10 CFR Part 50

Commission Policy Statement on the Systematic Safety Evaluation of Operating Nuclear Power Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of Commission Policy Statement.

SUMMARY: This Policy Statement describes a pilot program for which the Commission has developed the regulatory policies and practices to conduct integrated assessments for operating nuclear power reactors. This program is called the Integrated Safety Assessment Program (ISAP) and will address significant regulatory requirements which have evolved since the plant was originally licensed and pending licensing actions which have evolved from a variety of other sources. An integrated assessment will be conducted on a plant-specific basis, as part of a trial program, to evaluate all licensing issues on a given facility and to establish schedules for any necessary plant improvements. In addition, procedures have been established to allow for a periodic updating of the resulting implementation schedules for new licensing issues that arise in the future.

FOR FURTHER INFORMATION CONTACT: Dennis M. Crutchfield, Assistant Director for Safety Assessment, Division of Licensing, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone (301) 492–7492.

SUPPLEMENTARY INFORMATION: In 1977, the Nuclear Regulatory Commission initiated the Systematic Evaluation Program (SEP). Phase I of SEP defined a specific set of safety issues (topics) to be reviewed for operating nuclear power plants. Phase II of SEP was a pilot review of those topics for eleven of the oldest domestic operating reactors. Results have evolved from SEP over the last two years and identified significant experience relative to the safety and evaluation techniques for operating plants.

In 1980, Congress enacted Pub. L. 96–295 (the NRC Authorization Bill for Fiscal Year 1980). Section 110 of Pub. L. 96–295 required that the NRC develop a program for the systematic safety evaluations of operating reactors. The program proposal would have extended SEP to an evaluation which required licensees to compare their plant design to the acceptance criteria in the Standard Review Plan (NUREG–0800).* That program was not implemented for operating reactors; the Commission determined, and the Congress agreed, that the scope of the program was too broad to efficiently evaluate the safety of operating reactors. Congress subsequently specified in later Authorization Bills that funds should not be spent to implement that program. However, those activities were useful in that they focused attention on the needs and difficulties associated with the systematic safety evaluation of operating reactors as they relate to a constantly changing technology and increasing scope of regulatory requirements.

Following the TMI–2 accident, the NRC developed the TMI Action Plan (NUREG–0660)* from the safety lessons learned. Two aspects of the TMI Action Plan are particularly significant to the evaluation of the safety of operating plants: (1) it identified a large number of corrective actions to be implemented by operating plants and (2) it initiated the Interim Reliability Evaluation Program (IREP) in which plant-specific probabilistic risk assessment (PRA) studies were to be performed by the staff for several operating reactors to supplement the risk-reliability experience from the Reactor Safety Study (WASH–1400). The licensing actions resulting from TMI have increased the scope of outstanding licensing issues for all operating plants. Similarly, the experience thus far from IREP indicates that there are plant-specific strengths and weaknesses, from a reliability point of view, that warrant further consideration, beyond the deterministically-based issues.

One of the most significant conclusions drawn from SEP and IREP is that issues related to safety of operating nuclear power plants can be more effectively and efficiently implemented in an integrated, plant-specific review. In addition, the experience from SEP has served to focus on the set of current licensing criteria which should be evaluated for operating plants and experience from IREP has served to define the methods to conduct a plant-specific probabilistic safety analysis so that consistent, comparable results could be obtained which would enhance an integrated plant safety assessment.

Historically, licensing issues have been evaluated generically, and guidelines for any necessary corrective actions have been applied uniformly to all plants. While this approach has provided an effective means to ensure resolution of these issues, the generic implementation has not given sufficient attention to plant-specific characteristics which have a direct bearing on the appropriateness of the corrective action and the relative importance of the issue in relation to an overall plan for any necessary plant improvements. In some cases, consideration of plant-specific characteristics have identified alternative corrective actions which provide an equivalent or greater measure of safety, often at less cost to the licensee.

Consequently, the NRC had developed the regulatory procedures and attendant policies to conduct integrated assessments for operating power reactors. This approach is called the Integrated Safety Assessment Program (ISAP). In order to ensure the effectiveness of this program, it will be started on a trial basis and the plants to be reviewed have been selected by the NRC Staff from those licensees who indicated an interest to voluntarily participate in such a program.

Based on the results of this trial program, the NRC will decide, in about a year, whether or how this program should be extended to other operating reactors.

Implementation Schedules

To provide a stable environment to conduct ISAP, the Commission has authorized the staff to suspend specific existing implementation schedule requirements for the plants to be reviewed. Each affected licensee will be expected to propose and justify deferral for specific implementation requirements that warrant further evaluation. The associated implementation requirements and other safety issues will be evaluated collectively in an integrated assessment. The staff is only authorized to defer substantive regulatory and other requirements to the extent allowed by the Commission's procedural regulations. Thus, the staff will use the provisions in 10 CFR 50.12 to grant any exemptions.

In addition, any new implementation requirements which evolve late in the course of or following ISAP will be deferred for the plants involved and incorporated in an implementation schedule update, as described below.

The only exceptions will be issues for which the NRC Staff explicitly determines that prompt action is required to protect the health and safety of the public. Such actions include the short-term response to bulletins issued by the Office of Inspection and Enforcement.

Scope of Evaluation

The scope of ISAP is intended to be as comprehensive as practical. Consequently, it will consist of deterministic, probabilistic, and operating experience evaluations, which will serve to identify specific issues to be addressed in an integrated assessment.

The deterministic review areas, or ISAP topics, will be derived on a plant-specific basis during a screening review with the licensee at the beginning of the program. The issues to be considered are (1) a set of SEP Topics for which the NRC Staff has found significant differences between current licensing criteria and typical design criteria in existence when operating plants were licensed; (2) all pending licensing actions for the plant, including multi-plant actions, TMI Action Plan requirements and plant-specific licensing actions; (3) the unresolved generic issues for which resolution on a plant-specific basis might be expected, and (4) plant improvements proposed by the licensee.

The Commission's Safety Goal Policy published on March 14, 1983, (48 FR 10772), indicates that the quantitative goals and design objectives will not be used in the licensing process during the evaluation period, nor will the policy be interpreted as requiring that licensees or applicants perform a probabilistic analysis; however, the Commission continues to believe that probabilistic analyses provide a valuable adjunct to the deterministic regulatory requirements and enhance engineering judgments, if they are properly performed and applied. Consequently, the Commission believes that a plant-specific probabilistic safety assessment (PSA) should be performed in conjunction with ISAP. The plant-specific PSA will provide a basis for cost/benefit evaluations for the deterministically-based issues and will also identify potential strengths and weaknesses in the plant design and operation which should be considered in an integrated assessment.

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* Copies may be purchased by calling (301) 492–9530 or by writing to the Publications Services Section, Division of Technical Information and Document Control, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, or purchased from the National Technical Information Service, Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

An operating experience evaluation will be conducted in parallel with the topic evaluations and plant-specific PSA. This evaluation will be used to identify issues related to significant trends, event precursors, plant management and operation, and maintenance practices. In addition, the operating experience evaluation will provide a diverse perspective for the integrated assessment. The evaluation will consist of an analysis and categorization of reportable events and forced plant shutdowns and an evaluation of overall licensee performance.

Evaluation Process

The ISAP Topic evaluations and plant-specific PSA will be conducted in parallel. The licensee will initially perform deterministic analyses for the plant-specific set of ISAP Topics by comparing the as-built design of the facility to the current licensing criteria, industry codes and standards, or other appropriate acceptance criteria and also provide risk perspectives for each issue based on the PSA. The staff will review the licensee's analyses and issue safety evaluation reports which identify specific differences from the acceptance criteria and any attendant safety issues which should be considered in the integrated assessment. Schedules for the licensee's analyses and staff evaluation will be established during the screening review to enhance an efficient use of resources.

A PSA would be conducted by the licensee in accordance with an NRC Procedures Guide (NUREG/CR-2815).[*] The Procedures Guide describes appropriate and consistent methods for (1) initiator definition, (2) application of data, (3) success/failure criteria, (4) analysis, (5) quality control, and (6) documentation and presentation of results. In addition, the NRC Staff will identify methods by which the PSA should address unresolved generic issues; i.e., safety issues for which acceptance criteria do not yet exist. During the screening review, milestones will be established to monitor the progress of the PSA and to ensure appropriate interaction between the NRC Staff and the licensee. The licensee will be expected to use the PSA to identify significant contributors to risk that should be specifically considered in the integrated assessment. For the trial program, the extent and nature of plant-specific probabilistic analyses will be established on a case-by-case basis.

The issues raised in the ISAP Topic evaluations and the PSA, and the operating experience evaluation will be considered collectively in an integrated assessment. Decisions on corrective actions will be based on qualitative assessments of the value and impact of each action. The NRC Staff will present its conclusions regarding the need for or appropriateness of corrective actions proposed by the licensee for each of the identified issues in a draft report. The draft report will be issued for public comment and peer review. Should the NRC Staff and licensee disagree on the corrective action for any issue, that matter will be resolved in accordance with the Commission's procedures for backfitting requirements.

Following resolution of any comments on the draft report, the NRC Staff will request that the licensee establish and justify implementation schedules for each of the corrective actions and any ongoing analyses that may be necessary to establish appropriate corrective actions. The NRC Staff will judge the adequacy of the proposed implementation schedules based on the technical evaluation of the issues presented in the draft report and issue an implementation plan in a final report.

Licensing Action and Schedule Updates

The final report will serve as the basis and documentation for a license amendment incorporating and formalizing the implementation schedules. The license amendment will also establish procedures to periodically update the implementation schedule.

Any new implementation requirements that arise during or following an ISAP review will be deferred, except for those issues for which the NRC Staff determines that prompt action is required to ensure the health and safety or common defense and security of the public.

The deferred implementation requirements will be evaluated collectively as part of an implementation schedule update. The update evaluations would be conducted periodically, but not more than at five-year intervals. The evaluation would follow the same general course as an ISAP review and would consider a revised PSA, which has been updated to reflect corrective actions and plant improvements as they are completed. The revised implementation schedule will similarly be incorporated and formalized by a new license amendment.

Dated at Washington, D.C., this 9th day of November 1984.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission.

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49 FR 45114
Published 11/15/84

10 CFR Part 50

Environmental Qualification of Electrical Equipment; Status of June 30, 1982, Deadline; Statement of Policy

AGENCY: Nuclear Regulatory Commission.

ACTION: Statement of Policy.

SUMMARY: In July 1984, the Nuclear Regulatory Commission and the Union of Concerned Scientists entered into a stipulation in settlement of *Union of Concerned Scientists* v. *Nuclear Regulatory Commission*, U.S.C.A., D.C. Cir. No. 83–1842. This Statement of Policy is in compliance with the publication requirements of one provision of the stipulation. It is intended to advise the public on the status of the previously imposed June 30, 1982 deadline for licensee compliance. This is accomplished through the publication of the stipulation of the Commission's position on the effect of its final rule on Environmental Qualifications of Electric Equipment (48 FR 2729; January 21, 1983).

EFFECTIVE DATE: July 25, 1984.

FOR FURTHER INFORMATION CONTACT: C. Sebastian Aloot, Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555, (202) 634–3224.

SUPPLEMENTARY INFORMATION: The Union of Concerned Scientists and the Nuclear Regulatory Commission agree as follows:

1. On June 30, 1982, the Commission issued an interim rule by which it sought to amend the operating licenses of certain plants to eliminate the June 30, 1982 deadline for compliance with environmental qualification requirements established in CLI–80–21 and later actually written into those reactor operating licenses.[1]

2. On January 20, 1982, the Commission proposed to codify environmental qualification requirements and to establish a compliance deadline. The Commission issued a final rule based upon that proposal on January 21, 1983 (48 FR

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[1] Pursuant to CLI–80–21, the deadline was incorporated into existing reactor operating licenses by a series of orders. With respect to operating licenses issued thereafter, the deadline was included as a license condition. This practice continued up through the time the Commission issued the June 30, 1982 interim rule.

2729). In the preamble to the final rule, the Commission stated its intent that the compliance deadline embodied in the final rule would supersede all other compliance schedules.

3. In *Union of Concerned Scientists* v. *Nuclear Regulatory Commission*, 711 F.2d 370 (1983), the Court of Appeals for the District of Columbia Circuit ruled that the interim rule was based upon a Commission finding that continued reactor operation would not be inimical to the public health and safety pending full compliance with environmental qualification requirements. The Court also held that the interim rule was invalid because the Commission had failed to give notice and an opportunity for public comment on the safety finding.

4. Because the decision in *UCS* v. *NRC* came after promulgation of the final rule, the compliance schedule in that rule was set in the belief that the 1982 deadline had been deleted from all licenses into which it had been actually written. As a result of the Court's decision in *UCS* v. *NRC*, however, the Commission has concluded that the final rule should not be relied on as having amended licenses to eliminate the compliance deadline of June 30, 1982 from those licenses into which it was actually written. The Commission will not argue that the final rule has such an effect in this or any subsequent litigation or administrative proceedings involving environmental qualification for such plants.

5. Therefore, as a result of the Court's decision of June 30, 1983, the Commission regards the compliance deadline of June 30, 1982 as remaining in effect with respect to the environmental qualification requirements established in CLI–80–21, for those plants having a June 30, 1982 deadline actually written into their reactor operating licenses. Such plants not meeting those requirements as of June 30, 1982 were then in violation of their licenses and remain so until either the requirements are met or the licenses are lawfully amended to remove or modify the deadline. The Commission has proposed to eliminate the deadline by amending all licenses through a notice and comment rulemaking initiated in response to *UCS* v. *NRC*, 711 F.2d 370 (D.C. Cir. 1983), and now in progress. 49 FR 8445 (March 7, 1984). Any extension of the June 30, 1982 deadline depends at present upon the outcome of that rulemaking proceeding. The Commission will expedite the conclusion of the ongoing rulemaking and intends to reach a decision by August 15, 1984.[1]

6. In a Policy Statement (49 FR 8422), the Commission has stated the reasons why it believes that no enforcement action with regard to violation of the deadline is appropriate, pending conclusion of the rulemaking. However, enforcement action for demonstrated safety deficiencies may be taken at any time, regardless of the status of the June 30, 1982 rule.

7. The Commission will not interpret its Policy Statement of March 7, 1984 in any manner that violates the terms of this stipulation.

8. The Union of Concerned Scientists agrees to withdraw the Petition for Review that it filed in this case on March 7, 1983.

9. The Commission agrees to publish this stipulation in the Federal Register as a Policy Statement.

10. The parties agree that the Union of Concerned Scientists is entitled to pursue recovery of such attorneys' fees and costs as may be authorized by the Equal Access to Justice Act, 28 U.S.C. 2412(d)(1)(B). In entering into this stipulation, however, the Nuclear Regulatory Commission does not concede that the Union of Concerned Scientists is entitled to recover any attorneys' fees or other expenses and expressly reserves the right to oppose any application for such attorneys' fees or other expenses.

Sheldon L.Trubatch, Acting Solicitor
Juan L. Rodriquez, Attorney, United States
Nuclear Regulatory Commission,
Washington, DC 20555
Diane Curran, Attorney
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Washington, DC 20009

Dated at Washington, DC, this 8th day of November 1984.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,
Secretary of the Commission

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50 FR 11147
Published 3/20/85

10 CFR Ch. I

Commission Policy Statement on Training and Qualification of Nuclear Power Plant Personnel

AGENCY: Nuclear Regulatory Commission.

ACTION: Policy Statement.

SUMMARY: This statement presents the policy of the Nuclear Regulatory Commission (NRC) with respect to training and personnel qualification and describes the activities that the NRC will use to execute its responsibilities to ensure the health and safety of the public. This Policy Statement provides regulatory guidance called for by the Nuclear Waste Policy Act (Pub. L. 97–425) which directed the NRC to promulgate regulations or other regulatory guidance for the training and qualifications of civilian nuclear power plant operator, supervisors, technicians and other appropriate operating personnel. In recognition of industry initiatives underway to upgrade training programs, the NRC endorses the Institute of Nuclear Power Operations (INPO)-managed Training Accreditation Program in that it encompasses the elements of performance-based training and will provide the basis to ensure that personnel have qualifications commensurate with the performance requirements of their jobs. It remains the continuing responsibility of the NRC to independently evaluate applicant's and licensees' implementation of improvement programs to ensure that desired results are achieved. Nothing in this Policy Statement shall limit the authority or responsibility of the NRC to follow up on operational events or place any limit on NRC's enforcement authority when regulatory requirements are not met. However, while evaluating the effectiveness of this guidance in lieu of a new training regulation, the NRC intends to exercise some discretion in enforcement matters related to training and qualification of nuclear plant personnel and refrain from new rulemaking in this area for a period of at least two years from the effective date of this Policy Statement.

EFFECTIVE DATE: March 20, 1985.

FOR FURTHER INFORMATION CONTACT: William T. Russell, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone (301) 492–4803.

SUPPLEMENTARY INFORMATION:

Background

The Nuclear Waste Policy Act (42 USC 10101 et seq.), section 306, directed the Nuclear Regulatory Commission (NRC) to promulgate regulations or other regulatory guidance for the training and qualifications of civilian nuclear power plant operators, supervisors, technicians and other appropriate operating personnel. This Policy Statement is responsive to the mandate of the Nuclear Waste Policy Act for regulatory guidance on training and qualifications for nuclear power plant personnel. Regulations or regulatory guidance in the remaining areas are being developed separately.

Following the accident at TMI–2, the NRC has emphasized the need to upgrade training and qualifications of nuclear power plant personnel. In the TMI Action Plan, NUREG–0660, 1980, the NRC cited its ongoing study of accreditation of training programs in the industry as a possible means of upgrading training. Since that time, the Institute of Nuclear Power Operations (INPO) has developed a training accreditation program which the NRC has found to be an acceptable means of industry self-improvement in training. The NRC has, therefore, made INPO accreditation the focus of the policy set forth here for training, allowing the industry a minimum of two years of accreditation activity without the introduction of new NRC training regulations.

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[1] On September 5, 1984, subsequent to the execution of this stipulation, the Commission issued a final rule deleting the June 30, 1982 deadline from individual licenses.

The following statement sets forth the policy of the NRC with respect to training and qualification and describes the activities that the NRC will use to execute its responsibilities to ensure the health and safety of the public.

Policy Statement

The Commission recognizes that the industry, through the initiatives of the Nuclear Utility Management and Human Resources Committee (NUMARC) and the Institute of Nuclear Power Operations (INPO), has made progress in developing programs to improve nuclear utility training and personnel qualification. While some of these efforts have only recently been initiated, the Commission realizes the importance of industry's initiative and wishes to encourage further self-improvement. Subject to the continued success of INPO programs and NRC's ability to monitor their effectiveness, the Commission will refrain from new rulemaking in the area of training for a minimum period of two years from the effective date of this Policy Statement. While the Commission is deferring rulemaking in this area in recognition of the industry efforts to date, the NRC can only exercise this flexibility as long as the industry programs produce the desired results. It remains the continuing responsibility of the NRC to independently evaluate applicants' and licensees' implementation of improvement programs to ensure these results are achieved and to evaluate the possible need for further NRC action based on the success of industry programs after a two-year period.

The following paragraphs present the NRC policy with respect to licensees' and applicants' programs for personnel training and qualifications.

The nuclear power industry, through programs being coordinated by INPO, has made and is making progress toward improving the training of nuclear power plant personnel by accreditation of training programs. The NRC endorses the INPO-managed Training Accreditation Program in that it encompasses the elements of effective performance-based training.

The NRC considers the following five elements as essential to acceptable training programs:

- Systematic analysis of the jobs to be performed.
- Learning objectives derived from the analysis which describe desired performance after training.
- Training design and implementation based on the learning objectives.
- Evaluation of trainee mastery of the objectives during training.
- Evaluation and revision of the training based on the performance of trained personnel in the job setting.

The NRC recognizes that the INPO-managed accreditation of utility training includes the following training programs:

- Non-licensed operator.
- Control room operator
- Senior control room operator/shift supervisor.
- Shift technical advisor.
- Instrument and control technician.
- Electrical maintenance personnel.
- Mechanical maintenance personnel.
- Radiological protection technician.
- Chemistry technicians.
- On-site technical staff and managers.

All utilities have committed to achieving accreditation of each of the above training programs. It is understood that each licensee will exert best efforts to have all such programs ready for accreditation (i.e., final self-evaluation report submitted to INPO) by the end of 1986. It is also understood that applicants for operating licenses will exert best efforts to have all such programs ready for accreditation within two years after issuance of a full-power operating license.

For operating reactors, accreditation of the above training programs constitutes a method acceptable to the NRC for implementing performance-based training. The NRC will continue to review and approve all applicant training programs in accordance with applicable regulations, regulatory guidance, and the Standard Review Plan and to conduct inspections necessary to determine that current regulations and license training commitments are being met. Notwithstanding this Policy guidance, regulations in 10 CFR Part 55 regarding licensed operators will continue to be the basis for evaluation of applications for operators' licenses.

It should be noted that training programs for which regulations are currently in place (e.g., fire brigade, emergency response, security) or which are not subject to INPO accreditation (e.g., quality assurance) are not affected by this Policy Statement.

To assure that the nuclear industry's training program improvements are effective, the NRC will continue to closely monitor the process and its results by the following:

- Recommending a member to serve on each Accrediting Board;
- Having an NRC staff member attend and observe Accrediting Board meetings with the INPO staff and/or the utility representatives;
- Periodically observing accreditation team site visits;
- Accompanying INPO on selected plant evaluations;
- Meeting with INPO to share information on projects and activities;
- Reviewing pertinent accreditation documents;
- Including a training summary evaluation as part of each systematic assessment report of licensee performance (SALP);
- Monitoring plant and industry trends and events that involve personnel errors;
- Conducting operator licensing exams;
- Conducting operator requalification exams, consistent with Commission policy;
- Continuing evaluation of industrywide training qualification program effectiveness; and
- Conducting performance-oriented training inspections to assess the level of knowledge of plant personnel.

In addition, INPO will:

- Continue to manage the industry accreditation program;
- Continue to conduct performance oriented evaluations of training and qualification programs;
- Make generic accreditation documents (program description and criteria) publicly available; and
- Review and consider NRC recommendations regarding training.

Also, the industry, through NUMARC or other appropriate methods, will:

- Brief the Commission periodically on program status; and
- Provide periodic status reports to the NRC staff including plant accreditation status.

Personnel Qualifications

The NRC and industry recognize that the qualifications of personnel at nuclear power plants should be commensurate with the requirements of the jobs they perform. Since the INPO-managed accreditation and evaluation programs are performance-based, this policy statement assumes that training

programs for those positions covered will provide appropriately qualified personnel. For positions outside the scope of the INPO-managed accreditation program, for licensed operators and senior operators, and for all personnel at facilities applying for an operating license, NRC staff will continue to review qualifications in accordance with appropriate regulatory policy guidance.

NRC will use the same general methods described above for training to monitor the industry's progress in improving the qualifications of nuclear power plant personnel.

Enforcement policy

Notwithstanding its Enforcement Policy in 10 CFR Part 2, Appendix C, 49 FR 8583 (March 8, 1984), the Commission will exercise some discretion in selecting appropriate enforcement action for violations involving training in light of the NUMARC/INPO initiative. Licensees who are making reasonable efforts in developing and implementing the INPO/NUMARC programs described above will generally not be cited for violations related to these programs, provided the violations, whether or not identified by NRC, are appropriately corrected in a timely manner. However, violations which are not corrected in a timely manner, violations of any applicable reporting requirement, and any willful violation may be subject to enforcement. Any enforcement action taken during this grace period will be taken only with Commission concurrence. In addition to required reports and inspections, information requests under 10 CFR 50.54(f) may be made and enforcement meetings held to ensure understanding of corrective actions. Orders may be issued where necessary to achieve corrective actions on matters affecting plant safety. In brief, the NRC's decision to use discretion in enforcement in order to recognize industry initiatives in no way changes the NRC's ability to issue orders, call enforcement meetings or suspend licenses when a safety problem is found. Nothing in this Policy Statement shall limit the authority of the NRC to conduct inspections as deemed necessary and to take appropriate enforcement action when regulatory requirements are not met.

Dated at Washington, DC this 14th day of March, 1985.

For the Nuclear Regulatory Commission.

John C. Hoyle,

Assistant Secretary of the Commission.

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50 FR 11030
Published 3/19/85
Effective 3/19/85

Statement of Policy: Handling of Late Allegations

AGENCY: Nuclear Regulatory Commission.

ACTION: Statement of Policy: Handling of Late Allegations.

SUMMARY: This policy statement presents the criteria the Commission will follow in addressing late allegations received from sources outside the Commission, in the context of licensing reviews. It also directs that the staff's procedures for notifying Atomic Safety and Licensing Boards, Atomic Safety and Licensing Appeal Boards, and the Commission of the receipt of allegations be revised to provide for an initial, coarse screening prior to issuance of a Board Notification.

EFFECTIVE DATE: March 19, 1985.

FOR FURTHER INFORMATION CONTACT: Lawrence J. Chandler, Office of the Executive Legal Director, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone: 301-492-8658.

SUPPLEMENTARY INFORMATION:

Statement of Policy

The purpose of this policy statement is to explain the policy which the Commission expects to follow regarding the treatment of late allegations, received from sources outside the Commission, in operating license reviews and in the board notification process. The focus of this statement is on NRC staff and Commission pre-licensing safety reviews of uncontested issues, and Commission pre-licensing immediate effectiveness reviews of contested issues. The treatment of allegations in formal adjudicatory licensing proceedings will continue to be governed by the Rules of Practice in 10 CFR Part 2. Apart from this policy statement, the Commission has initiated a rulemaking to codify NRC caselaw criteria for reopening a closed evidentiary record in a formal licensing proceeding and to specify further the documentary bases for motions to reopen, including those which may be based on allegations. 49 FR 50189 (December 27, 1984).

The most fundamental tenet flowing from the NRC's statutory mandate under the Atomic Energy Act is that a license may be issued only if it can be found that there is reasonable assurance that the activity to be authorized presents no undue risk to the health and safety of the public. There can be no abdication of the responsibility to make this determination and if there is a serious question as to the ability to make such finding, no license may be issued and the time necessary to resolve such question must and will be taken. Therefore, in the context of late allegations, it is necessary that appropriate criteria be applied to enable the decisionmaker, be it the NRC's staff or the Commission itself, to expeditiously determine the significance, in terms of safe operation of the facility, of any allegations made.

In connection with its review of a number of recent cases, the NRC has been confronted with the task of addressing large numbers of allegations which were brought to its attention very shortly before, and in some cases on the eve of, the date on which a decision on whether to authorize the issuance of an operating license was to be made. Some of these allegations related to matters in controversy and others related to previously uncontested issues not under consideration by a particular adjudicatory tribunal. Significant commitments of staff resources often must be diverted at the last minute to address large numbers of late allegations, many of which have proven to be unsubstantiated or of little, if any, safety significance.

Ideally, all allegations concerning a particular facility will be resolved before any license is authorized. If, however, because of the number of allegations and/or their tardy submission, all allegations cannot be resolved in a timeframe consistent with reasonable and responsible licensing action, it may be necessary to give priority to those allegations which, because of their potential impact on safety, must be resolved before licensing action can be taken.

Initial Screening of Allegations

Any concerns bearing on the safety of a facility should be brought promptly to the attention of the applicant or licensee.[1] If, however, this approach is unsatisfactory, any person is free to bring such concerns directly to the NRC. To eliminate unnecessary delay in the licensing process to the extent possible, any person who has an allegation concerning the design, construction, operation, or management of a nuclear power plant has a duty to bring such information to the Commission's attention as promptly as possible. All allegations should be specific and documented to the fullest extent possible. Those submitting allegations in good faith should be aware that appropriate protection against retaliatory action by an applicant or licensee (including its contractors and subcontractors) is afforded by Section 210 of the Energy Reorganization Act of 1974, 42 U.S.C. 5851. All parties and persons are reminded that Federal law imposes penalties upon any person who intentionally makes any false statement or representation to any agency of the United States.

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[1] The Commission encourages the establishment of programs by utilities for the purpose of identifying and resolving allegations affecting safety in a timely manner as design and construction of a nuclear facility proceeds.

In reviewing allegations, the appropriate Commission staff office will first determine whether, if true, the allegations are material to the licensing decision in that they would require denial of the license sought, the imposition of additional conditions on such license, or further analysis or investigation. Allegation which, even if true, are not material to any licensing decision or which on their face or after initial inquiry are determined to be frivolous or too vague or general in nature to provide sufficient information for the staff to investigate will receive no further consideration.

As to allegations which are material to the licensing decision, the Commission staff will next determine whether the information presented is new in the sense of raising a matter not previously considered or tending to corrobrate previously received but not yet resolved allegations. In making this determination, all information available to the Commission will be considered, including that previously provided by an applicant or licensee and that obtained by the Commission in the course of its review and inspection efforts or from its investigation of prior allegations. In some cases, information already available to the NRC may be sufficient to resolve certain allegations. However, if an allegation is found to be both material and new, the staff will investigate the allegation further.

Further Review

If the staff determines that, as a result of the number of allegations or the timeframe in which they are received it appears likely that full consideration of all allegations cannot be accomplished consistent with responsible and timely Commission action, the Commission staff will conduct a further screening of the allegations to determine their significance to safety and therefore what priority should be assigned relative to the activity to be authorized.[2] The following screening criteria will be considered:

1.The likelihood that the allegation is correct, taking into consideration all available information including the apparent level of knowledge, expertise, and reliability of the individual submitting the allegation in terms of the allegation submitted and the possible existence of more credible contrary information.

2. The need for prompt consideration of the allegation recognizing the public interest in avoiding undue delay. If the staff determines that an allegation raises a significant safety concern regarding, for example the design, construction, or operation of a facility or about quality assurance or control or management conduct, which brings into question the safe operation of the facility at a given stage of operation, the allegation must be addressed prior to authorizing that stage. For purposes of this policy statement, an allegation will be considered safety significant if the allegation would, if true, (1) raise a significant question about the ability of a particular structure, system, or component to perform its intended safety function or (2) raise a significant question of management competence, integrity, or conduct or about implementation of the quality assurance program, sufficient to raise a legitimate doubt as to the ability to operate the plant safely. Allegations which are not safety significant will be resolved in the normal course of business independent of license issuance.

Board Notification Procedures

Parties to ongoing adjudicatory proceedings have an obligation to bring allegations to the attention of the presiding board. All parties have an obligation to inform boards promptly of relevant and material information that may affect the decisionmaking process.

The Commission's staff, in accordance with its obligations for board notification has in the past submitted allegations to boards promptly and without awaiting their resolution or determinaton of significance relative to the decisionmaking process. This practice is consistent with the Commission-approved board notification policy. However, it has resulted, on occasion, in presenting boards with new information, the significance of which is not readily apparent. Consequently, in the future, staff board notifications of allegations will not be made until the staff has made at least an initial screening of the allegations. Only those allegations which are found not to be frivolous, which are relevant and material to the decisionmaking process (as determined under existing board notification procedures) and which are determined to warrant further scrutiny will be submitted to the presiding tribunal. Board notifications should still be made promptly, consistent with the need and time required for screening. The staff's board notification procedures should be revised accordingly.

Dated at Washington, D.C., on this 13th day of March 1985.

For the Nuclear Regulatory Commission.

John C. Hoyle,

Assistant Secretary.

50 FR 11882
Published 3/26/85
Comment period expires 4/25/85.

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10 CFR Part 50

Proposed Policy for Regulation of Advance Nuclear Power Plants

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed Policy statement.

SUMMARY: The Commission intends to improve the licensing environment for advance nuclear power reactors to minimize complexity and uncertainty in the regulatory process. Advance reactors are defined as reactor designs which are significantly different from the present generation light water reactors. It is anticipated that these designs will reflect the benefits of significant research and development work, and include the experience gained in operating the many power and developmental reactors both in the United States and throughout the world. Since the wealth of analyses, research, development and operating experience provide useful insight to designers, it is also expected these reactor plants will have an enhanced margin of safety. To provide regulatory guidance during the development of advance reactor design, the Commission wishes to encourage the earliest possible interaction between other government agencies, designers, potential licensees and the NRC. The proposed policy statement sets forth the general characteristics of advanced reactor design which the Commission believes will contribute to increased assurance of safety, to better public understanding, and to more effective regulation. As the agency responsible for protecting the public from the potential hazards of nuclear power plants, the Commission will keep the public informed of its judgment on the known and unknown safety aspects of advanced reactor designs as they come before the Commission.

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[2] As a general matter, the Commission has authorized issuance of operating licenses first for low power testing (up to 5% of rated power) and subsequently for full power operation (operation above 5% of rated power). In some cases these steps have been further refined, for example, into fuel load, hot system testing, criticality and zero power testing. Other refinements too are possible and may be authorized.

DATES: The comment period expires May 28, 1985.

ADDRESSES: Send written comments or suggestions to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch. Copies of comments received by the Commission may be examined at the NRC Public Document Room, 1717 H Street, NW., Washington, DC 20555.

FOR FURTHER INFORMATION CONTACT: Dennis K. Rathbun or James G. Beckerly, Office of Policy Evaluation, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Telephone (202) 634–3295.

SUPPLEMENTARY INFORMATION: This statement gives the Commission's policy for considering advanced reactors which are those reactor designs that are significantly different from the light water reactors now under construction or in operation.

Legislative Background

The Commission's policy with respect to regulation of advanced reactors is guided by the legislative background. The Energy Reorganization Act of 1974, which established the Nuclear Regulatory Commission, specifically delegated to NRC "licensing and related regulatory authority" for demonstration nuclear reactors other than those already in existence ". . . when operated as part of the power generation facilities of an electric utility system, or when operating in any other manner for the purpose of demonstrating the suitability for commercial application of such a reactor . . ." The Energy Research and Development Administration (now the Department of Energy) was charged with ". . . encouraging and conducting research and development, including demonstration of commercial feasibility and practical applications of the extraction, conversion, storage, transmission, and utilization phases related to the development and use of energy from . . . nuclear . . . sources."

Under Section 205 of the Energy Reorganization Act, NRC must provide a "long-term plan for projects for the development of new or improved safety systems for nuclear power plants." The Commission is generally limited by language in Congressional Committee reports to research on safety systems to be incorporated into reactors of current design and on conceptual designs for both new systems and new reactors.

The Commission's ultimate goal is the approval of essentially complete standard plant designs. However, advanced reactor designers and prospective construction permit applicants are encouraged not to wait until detailed designs are complete, but to submit technical information on their proposed conceptual designs as far in advance of application as practicable, so that NRC staff may evaluate fundamental safety characteristics in a timely manner.

To enhance Commission participation and continuity in the review of advanced reactors, and advanced reactors group has been established in the Office of Nuclear Reactor Regulation. This group will be the focal point for NRC interaction with the Department of Energy, designers (domestic and foreign) and potential applicants and will prepare a plan for the development of regulatory criteria for licensing proposed advanced reactors. In addition, the group will provide guidance on an NRC-funded advanced reactor research program to ensure that it supports, and is consistent with, the Commission's advanced reactor policy. The Advisory Committee on Reactor Safeguards (ACRS) will play a significant role in reviewing proposed advanced reactor design concepts and supporting activities.

The Commission would also like to be informed as early as possible of new design concepts under construction by the nuclear industry so that the staff can review and comment on their safety and, if necessary, support confirmatory research on them. While the NRC itself does not develop new designs, the Commission intends to develop the capability for timely, appropriate assessment and response to innovative and advanced designs that might be presented for NRC review. Prior experience has shown that new reactor designs—even variations of established design—may involve technical problems that must be identified and solved in order to assure adequate protection of the public health and safety. The earlier such design problems are identified, the earlier satisfactory resolution can be achieved. When informing the NRC of new concepts under consideration, prospective applicants should understand that they are responsible for all research necessary to support any specific license application. NRC research is conducted only to provide the technical bases for rulemaking and regulatory decisions; to support licensing and inspection activities; to assess the feasibility and effectiveness of safety improvements; and to increase our understanding of phenomena for which analytical methods are needed in regulatory activities.

Questions

A number of basic issues were identified in development of this policy statement. The Commission requests comments from all interested parties on the following questions, as well as on any other aspects of the policy statement:

1. Should NRC's regulatory approach be revised to reduce dependence on prescriptive regulations and, instead, establish less prescriptive design objectives, such as performance standards? If so, in what aspects of nuclear power plant design (for example, reactor core power density, reactor core heat removal, containment, and siting) might the performance standards approach be applied most effectively? How could implementation of these performance standards be verified?
2. Should the regulations for advanced reactors require more inherent safety margin in their design? If so, should the emphasis be on providing features that permit more time for operator response to off-normal conditions, or should the emphasis be on providing systems that are capable of functioning under conditions that exceed the design basis?
3. Should licensing regulations for advanced reactors mandate simplified designs which require the fewest operator actions, and the minimum number of components needed for achieving and maintaining safe shutdown conditions, thereby facilitating operator comprehension and reliable system function for off-normal conditions?
4. Should the NRC develop general design criteria for advanced reactors by modifying the existing regulations, which were developed for the current generation of light water reactors, or by developing a new set of general design criteria applicable to specific concepts which are brought before the Commission?
5. Should the NRC favor advanced reactor designs that concentrate the primary safety functions in very few large systems (rather than in multiple subsystems), thereby minimizing the need for complex benefit and cost balancing in the engineering of safe reactors?
6. What degree of proof would be sufficient for the NRC to find that a new design is based on technology which is either proven or can be demonstrated by a satisfactory technology development program? For example, is it necessary or advisable to require a prototypical demonstration of an advanced reactor concept prior to final licensing of a commercial facility?

Dated at Washington, D.C., this 21st day of March 1985.

For the Nuclear Regulatory Commission.

John C. Hoyle,

Acting Secretary of the Commission.

50 FR 13810
Published 4/8/85

10 CFR Part 50

Proposed Policy for Regulation of Advanced Nuclear Power Plants; Correction

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed Policy Statement; correction.

SUMMARY: This document corrects a proposed policy statement.

FOR FURTHER INFORMATION CONTACT: Dennis K. Rathbun or James G. Beckerley, (202–634–3295).

SUPPLEMENTARY INFORMATION: In FR Doc. 85–7136 appearing on page 11882 in the issue of Tuesday, March 26, 1985, make the following correction:

Page 11882, third column, under the "**DATES**" caption change the comment expiration date to May 28, 1985.

Approved: April 2, 1985.
John C. Hoyle,
Acting Secretary.

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50 FR 20892
Published 5/21/85
Effective 5/21/85

10 CFR Part 50

Emergency Planning; Statement of Policy

AGENCY: Nuclear Regulatory Commission.

ACTION: Statement of Policy on Emergency Planning Standard 10 CFR 50.47(b)(12).

SUMMARY: The United States Court of Appeals for the District of Columbia Circuit ("D.C. Circuit" or "Court") has vacated and remanded to the Nuclear Regulatory Commission ("NRC" or "Commission") that part of its interpretation of 10 CFR 50.47(b)(12) ("planning standard (b)(12)") which stated that a list of treatment facilities constituted adequate arrangements for medical services for individuals who might be exposed to dangerous levels of radiation at locations offsite from nuclear power plants. *GUARD* v. *NRC*. 753 F.2d 1144 (D.C. Cir. 1985). The Court also vacated certain Commission decisions which applied this interpretation in the Commission proceeding on operating licenses for the San Onofre Nuclear Generating Station, Units 2 and 3 ("SONGS"). However, the Court did not vacate or in any other way disturb the operating licenses for SONGS. Moreover, the Court's remand left to the Commission's sound discretion a wide range of alternatives from which to select an appropriate response to the Court's decision. This Statement of Policy provides guidance to the NRC's Atomic Safety and Licensing Boards ("Licensing Boards") and Atomic Safety and Licensing Appeal Boards ("Appeal Boards") pending completion of the Commission's response to the D.C. Circuit's remand.

EFFECTIVE DATE: May 21, 1985.

FOR FURTHER INFORMATION CONTACT: Sheldon Trubatch. Office of the General Counsel. (202) 634–3224.

SUPPLEMENTARY INFORMATION:

I. Background

Emergency planning standard (b)(12) provides:

> (b) The onsite and offsite emergency response plans for nuclear power reactors must meet the following standards:
>
> (12) Arrangements are made for medical services for contaminated injured individuals.

10 CFR 50.47(b)(12).

The scope of this requirement was an issue of controversy in the adjudicatory proceeding on the adequacy of the emergency plans for SONGS. See generally. LBP–82–39, 15 NRC 1163. 1186,–1200, 1244–1257, 1290 (1982). The Licensing Board concluded that planning standard (b)(12) required, among other things, the development of arrangements for medical services for members of offsite public who might be exposed to excessive amounts of radiation as a result of a serious accident. 15 NRC at 1199. The Licensing Board did not specify what would constitute adequate medical service arrangements for such overexposure. However, it found that there was no need to direct the construction of hospitals, the purchase of expensive equipment, the stockpiling of medicine or any other large expenditure, the sole purpose of which would be to guard against a very remote accident. Rather, the Licensing Board believed that the emphasis should be on developing specific plans and training people to perform the necessary medical services. 15 NRC at 1200.

The Licensing Board also found, pursuant to 10 CFR 50.47(c)(1), that although the failure to develop arrangements for medical services for members of the offsite public who may be injured in a serious accident was a deficiency in the emergency plan, that deficiency was not significant enough to warrant a refusal to authorize the issuance of operating licenses for SONGS provided that deficiency was cured within six months. 15 NRC at 1199. (This period was subsequently extended by stipulation of the parties. The Licensing Board provides several reasons which supported its finding that this deficiency was insignificant. Among these were that the possibility of a serious accident was very remote, significantly less than one-in-a-million per year, and that the nature of radiation exposure injury being protected against was such that available medical services in the area could be called upon on an *ad hoc* basic for injured members of the offsite public.

The Licensing Board's Interpretation of planning standard (b)(12) was called into question by the Appeal Board. ALAB–680, 16 NRC 127 (1982). In denying a motion to stay the Licensing Board's decision, the Appeal Board suggested that the phrase "contaminated injured individuals" had been read too broadly to include individuals who were severely irradiated. In the Appeal Board's view, the phrase was limited to individuals onsite and offsite who had been *both* contaminated with radiation *and* traumatically injured. The record in San Onofre was found to support a finding that adequate medical arrangements had been made for such individuals.

Faced with these differing interpretations, the Commission certified to itself the issue of the interpretation of planning standard (b)(12). CLI–82–27, 16 NRC 883 (1982). After hearing from the parties to the San Onofre proceeding and the Federal Emergency Management Agency (FEMA), the Commission determined among other things, that: (1) Planning standard (b)(12) applied to individuals both onsite and offsite; (2) "contaminated injured individuals" was intended to include seriously irradiated members of the public; and (3) adequate medical arrangements for such injured individuals would be provided by a list of area facilities capable of treating such injuries.

Subsequently, Southern California Edison provided a list of such facilities to the Licensing Board. The Licensing Board found that the list satisfied planning standard (b)(12). LBP–83–47, 18 NRC 128 (1983). Thereupon, the staff amended the San Onofre licenses to remove the emergency planning condition previously imposed. 48 FR 43246 (September 22, 1983).

II. The Court's Decision

In *Guard* v. *NRC*, the Court vacated the Commission's interpretation of planning standard (b)(12) to the extent that a list of treatment facilities was found to constitute adequate arrangements for medical services for offsite individuals exposed to dangerous levels of radiation. 753 F.2d at 1146, 1150). The Court did not review any other aspects on the Commission's interpretation of planning standard (b)(12). In particular, because the Court's decision addressed the adequacy of certain arrangements for only offsite individuals, the decision does not affect the emergency planning findings necessary for low power operation.

With regard to full-power operation, the Court also afforded the NRC substantial flexibility in its reconsideration of planning standard (b)(12) to pursue any rational course, 753 F.2d at 1146. Possible further Commission action might range from reconsideration of the scope of the phrase "contaminated injured individuals" to imposition of "genuine" arrangements for members of the public exposed to dangerous levels of radiation. *Id.* Until the Commission determined how it will proceed to respond to the Court's remand, the Commission provides the following interim guidance to the boards in authorizing, and to the NRC staff in issuing, a full-power operating licenses.

III. Interim Guidance

The Commission's regulations specifically contemplated certain equitable exceptions, of a limited duration, from the requirements of 50.47(b), including those presently uncertain requirements here at issue. Section 50.47(c)(1) provides that:

"Failure to meet the applicable standards set forth in paragraph (b) of this section may result in the Commission's declining to issue an operating license; demonstrate to the satisfaction of the Commission that deficiencies in the plans are not significant for the plant in question, that adequate interim compensating actions have been or will be taken promptly, or that there are other compelling reasons to permit plant operations."

For the reasons discussed below, the Commission believes that Licensing Boards (and, the uncontested situations, the staff) may find that applicants who have met the requirements of § 50.47(b)(12) as interpreted by the Commission before the *GUARD* decision and who commit to full compliance with the Commission's response to the *GUARD* remand meet the requirements of § 50.47(c)(1) and, therefore, are entitled to license conditional of full compliance with the Commission's response to the *GUARD* remand.[1]

The Commission relies upon several factors in directing the Licensing Boards and, where appropriate, the staff to consider carefully the applicability of § 50.47(c)(1) for the limited period necessary to finalize a response to the recent *GUARD* decision. Because the Commission has not determined how, or even whether, to define what constitutes adequate arrangements for offsite individuals who have been exposed to dangerous levels of radiation, the Commission believes that until it provides further guidance on this matter, Licensing Boards (or, in uncontested matters, the staff) should first consider the applicability of 10 CFR 50.47(c)(1) before considering whether any additional actions are required to implement planning standard (b)(12). Such consideration is particularly appropriate because the *GUARD* decision leaves open the possibility that modification or reinterpretation of planning standard (b)(12) could result in a determination that no prior arrangements need to be made for offsite individuals for whom the consequences of a hypothetical accident are limited to exposure to radiation.

In considering the applicability of 10 CFR 50.47(c)(1), the Licensing Boards (and, in uncontested cases, the staff) should consider the uncertainty over the continued viability of the current meaning of the phrase "contaminated injured individuals." Although, that phrase currently includes members of the offsite public exposed to high levels of radiation, the *GUARD*, court has clearly left the Commission the discretion to "revisit" that definition in a fashion that could remove exposed individuals from the coverage of planning standard (b)(12). Therefore, Licensing Boards (and, in uncontested cases, the staff) may reasonably conclude that no additional actions should be undertaken now on the strength of the present interpretation of that term.

Moreover, the Commission believes that Licensing Boards (and, in uncontested cases, the staff) could reasonably find that any deficiency which may be found in complying with a finalized, post-*GUARD* planning standard (b)(12) is insignificant for the purposes of 10 CFR 50.47(c)(1). The low probability of accidents which might cause extensive radiation exposure during the brief period necessary to finalize a Commission response to *GUARD* (as the San Onofre Licensing Board found, the probability of such an accident is less than one in a million per year of operation), and the slow evolution of adverse reactions to overexposure to radiation are generic matters applicable to all plants and licensing situations and over which there is no genuine controversy. Both of those factors weigh in favor of a finding that any deficiencies between present licensee planning (which complies with the Commission's pre-*GUARD* interpretation of 10 CFR 50.47(b)(12)) and future planning in accordance with the final interpretation of planning standard (b)(12) as a response to the *GUARD* decision, will not be safety significant for the brief period in which it takes licensee to implement the final standard.

In addition, as a matter of equity, the Commission believes that Licensing Boards (and, in uncontested cases, the staff) could reasonably find that there are "other compelling reasons" to avoid delaying the licensees of those applicants who have complied with the Commission's pre-*GUARD* section 50.47(b)(12) requirements. Where applicants have acted in good faith reliance on the Commission's prior interpretation of its own regulation, the reasonableness of this good faith reliance indicates that it would be unfair to delay licensing while the Commission completes its response to the *GUARD* remand.

Finally, if Licensing Boards find that these factors adequately support the application of 10 CFR 50.47(c)(1), then those Licensing Boards could conclude that no hearings would be warranted. Therefore, until the Commission concludes its *GUARD* remand and instructs its boards and its staff differently, the Licensing Boards could reasonably find that any hearing regarding compliance with 10 CFR 50.47(b)(12) shall be limited to issues which could have been heard before the Court's decision in *GUARD* v. *NRC*.

Dated at Washington, D.C. this 16th day of May, 1985.

For the Commission.

Samuel J. Chilk,

Secretary of the Commission.

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[1] Licensees who have already obtained operating licenses based on compliance with the Commission's previous interpretation planning standard (b)(12) will also be expected either to come into compliance with any different interpretation of that planning standard or to explain why an exemption would be warranted. Failure to provide an adequate basis for an exemption request could lead to initiation of an enforcement action pursuant to 10 CFR Part 2.202.

COMMISSION NOTICES

MEMORANDA OF UNDERSTANDING

38 FR 24936
Published 9/11/73

AEC-LICENSED FACILITIES

Memorandum of Understanding

Both the Environmental Protection Agency (EPA) and the Atomic Energy Commission (AEC) have complementary responsibilities in areas of environmental protection and the control of radiation effects. In order to fix an appropriate interface of the respective functions of the two agencies, to further facilitate their useful cooperation, and to avoid unnecessary duplication of regulatory effort, EPA and the AEC have executed a memorandum of understanding with regard to AEC-licensed facilities. The text of the memorandum is set forth below.

AEC-EPA MEMORANDUM OF UNDERSTANDING WITH RESPECT TO AEC-LICENSED FACILITIES

Both the Atomic Energy Commission (AEC) and the Environmental Protection Agency (EPA) have complementary responsibilities in areas of environmental protection and the control of radiation effects. Pursuant to Reorganization Plan No. 3 of 1970, "the functions of the Atomic Energy Commission under the Atomic Energy Act of 1954, as amended, administered through its Division of Radiation Protection Standards to the extent that such functions of the Commission consist of establishing generally applicable environmental standards[1] for the protection of the general environment from radioactive material" and all functions of the Federal Radiation Council were transferred to the Administrator of EPA. The President's message to the Congress upon transmitting Reorganization plans to establish EPA and NOAA stated that "AEC would retain responsibility for the implementation and enforcement of radiation standards through its licensing authority." In order to fix an appropriate interface of the respective functions of the two agencies, to further facilitate their useful cooperation, and to avoid unnecessary duplication with regard to AEC-licensed facilities, the AEC and EPA agree as follows:

1. AEC-licensed facilities are subject through AEC licensing authority and requirements to EPA's generally applicable environmental radiation standards, as defined in Reorganization Plan No. 3 of 1970. AEC will take appropriate action to assure that AEC-licensed facilities are operated in such a manner that routine radioactive discharges therefrom do not exceed generally applicable environmental standards established by EPA, outside the site boundary, for the protection of the general environment from radioactive material.

2. The AEC and the EPA will jointly undertake and carry out arrangements for special studies for the purpose of obtaining necessary information for establishing generally applicable environmental standards for the protection of the general environment from radioactive material discharged from AEC-licensed facilities. For example, the AEC will supply to EPA AEC data and will use its best efforts to supply reasonably obtainable licensee data, relevant to radioactive effluents and the generation of pathway models. The AEC will also participate and will take appropriate action to arrange for its licensees to participate, as may be necessary, in providing data on releases and concurrent meteorological data in support of EPA field measurements and special studies such as pathway model verification at typical licensed facilities. The EPA will endeavor to minimize the number of separate typical facilities on which field measurements will be needed in establishing pathway models.

3. It is agreed that EPA may accompany AEC inspectors on AEC inspections of AEC-licensed facilities for the purpose of becoming informed on how licensees conform with generally applicable environmental standards. Such accompaniment may, at the discretion of EPA, be on either announced or unannounced AEC inspections. It is anticipated that up to 5 such accompaniments may be made in FY 1974. EPA will determine those inspections on which it wishes to accompany AEC. The first step will be for AEC to familiarize the EPA with the scope of AEC inspections.

4. EPA will advise and obtain AEC comments prior to the publication of data relating to discharges from AEC-licensed facilities and the results of these programs.

5. EPA will furnish technical advice and assistance to AEC upon request on discharges to the environment from AEC-licensed facilities.

6. Nothing in this Memorandum of Understanding, or any activities conducted hereunder, shall be construed as precedent for, or as recognizing, any authority of EPA to duplicate or supervise inspection activities of the AEC.

For the United States Atomic Energy Commission.

WILLIAM O. DOUB,
Commissioner.

AUGUST 27, 1973.

For the United States Environmental Protection Agency.

CHARLES ELKINS,
Acting Assistant Administrator for Hazardous Materials Control.

AUGUST 21, 1973.

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39 FR 2124
Published 1/17/74

AEC-LICENSED FACILITIES

Memorandum of Understanding

The United States Coast Guard (USCG) and the Atomic Energy Commission (AEC) both have responsibilities for the regulation of safety and protection of the environment from effects of construction and operation of floating nuclear power plants. To avoid the duplication of effort implicit in this common responsibility, and to take best advantage of the capabilities of both agencies, USCG and AEC have executed a Memorandum of Understanding for Regulation of Floating Nuclear Power Plants. The text of the memorandum is set forth below.

Memorandum of Understanding Between the United States Coast Guard and the United States Atomic Energy Commission for Regulation of Floating Nuclear Power Plants

1. *Purpose.* For the purpose of coordinating and implementing consistent and

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[1] The word "standards," as used herein, has the same meaning as in Reorganization Plan No. 3 of 1970, as follows: "standards mean limits on radiation exposure or levels, or concentrations or quantities of radioactive material, in the general environment outside the boundaries of locations under the control of persons possessing or using radioactive material."

comprehensive requirements to maximize safety with respect to the design, fabrication, construction and operation of floating nuclear power plants, to minimize the possible adverse environmental impact of such plants, and to minimize duplication and avoid possible inconsistency in safety requirements applied to such plants, the United States Coast Guard (U.S.C.G.) and the United States Atomic Energy Commission (U.S.A.E.C.) do hereby agree—subject to their respective statutory authorities described below—as indicated herein. A "floating nuclear power plant" is defined as a nuclear power plant, mounted on and thereby integrally with a barge, fabricated at a central shipyard facility, then towed to a fixed position where it is installed and moored, nuclear fuel is loaded, and where it is operated as a floating facility to supply electrical energy into an onshore electrical load network.

2. *Statutory Background*. a. *The United States Coast Guard* (*U.S.C.G.*). The United States Coast Guard, under 46 U.S.C. 395 et seq. and other related provisions of Title 46 of the U.S. Code (including but not limited to 46 U.S.C. 392, 406–412, 435, 222, and 672) is authorized to regulate the design and construction, the inspection, and the issuance of certificates of inspection to seagoing barges admeasuring to greater than 100 gross tons, in accordance with the provisions of 46 U.S.C. 71 et seq. and regulations issued pursuant thereto, with respect to their hulls, boilers, unfired pressure vessels, auxiliary machinery, electrical apparatus, equipment, and manning.

All barges admeasuring to greater than 150 gross tons are required to obtain a load line certificate issued by the American Bureau of Shipping for the U.S.C.G. under 46 U.S.C., 88 et. seq., prior to proceeding from a port or place in the United States to another port or place in the United States; including, but not limited to, proceeding from a fabrication site ashore to an offshore site within the territory of the United States where they will be permanently situated.

The U.S.C.G. under 46 U.S.C. 481 is authorized to regulate seagoing barges with respect to all lifesaving, firefighting, and mooring equipment and bilge systems, and under 33 U.S.C.A. 1221(2) the carrying or installation of electronic or other devices.

The U.S.C.G. under 33 U.S.C.A. 1221(7) is authorized to prescribe safety equipment requirements for structures in, on, or on the land immediately adjacent to the navigable waters of the United States and for protection systems involving structures, including, but not limited to, breakwaters in the navigable waters of the United States. In addition, all structures located in the navigable waters of the United States must be equipped with lights and other signals as required by the U.S.C.G. under 14 U.S.C. 85. Similarly, under 14 U.S.C. 83, no aids to navigation may be established except as authorized by the U.S.C.G.

The U.S.C.G. exercises broad authority respecting vessel operation and control, structure safety, and environmental protection in the navigable waters of the United States under the Ports and Waterways Safety Act, 33 U.S.C.A. 1221 et. seq.

The U.S.C.G. regulates the transfer, stowage, handling, discharge and dumping of oil, hazardous substances, explosives, and other dangerous articles or substances under 46 U.S.C. 391a, 46 U.S.C. 170, 33 U.S.C.A. 1221, 33 U.S.C.A. 1321, 33 U.S.C.A. 1417, and 50 U.S.C. 191. In addition, the U.S.C.G. regulates the installation of marine sanitation devices aboard seagoing barges under 33 U.S.C.A. 1322.

The U.S.C.G. is required by the National Environmental Policy Act (NEPA) to consider the effects on the environment of any major action which it takes.

b. *The United States Atomic Energy Commission* (*U.S.A.E.C.*). Under 42 U.S.C. Chapter 23 and rules and regulations issued pursuant thereto, the U.S.A.E.C. is authorized to license and regulate the manufacture, construction and operation of atomic energy production and utilization facilities from the standpoint of the common defense and security and the public health and safety. In addition, pursuant to the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 et. seq., the U.S.A.E.C. is required as lead agency to prepare an environmental impact statement on, and consider in its licensing actions, the effects on the quality of the human environment caused by the manufacture, construction and operation of such plants.

No person may operate the controls or direct the operation of the controls of a nuclear power plant without first having been issued an operator's license by the U.S.A.E.C. pursuant to 42 U.S.C. 2137.

3. *Agency Responsibilities*. a. *General Arrangements*. The U.S.A.E.C. will serve as "Lead Agency" in the licensing, permitting, certification, and inspection of floating nuclear power plants during their construction, operation, relicensing, recertification, alteration, repair, decommissioning, or other activities involving the statutory responsibilities of both agencies.

Except as provided for in Field Working Agreements, and for enforcement actions below, all written communications of U.S.C.G. to and from a license applicant or licensee of such plants relating to such matters, will be transmitted through the U.S.A.E.C. Director of Regulation or his designee. In particular, any actions requiring partial or complete shutdown of the nuclear power plant or changes from the design and operating conditions approved within the terms of this memorandum of understanding will be transmitted through the U.S.A.E.C. Director of Regulation or his designee.

Pursuant to the provisions of this agreement, the U.S.A.E.C. may issue manufacturing licenses, construction permits, and operating licenses while the U.S.C.G. may issue load line certificates (through the American Bureau of Shipping), certificates of inspection, and amendments to certificates of inspection. Except with respect to any actions requiring partial or complete shutdown of the nuclear power plant or changes from the design and operating conditions approved by either agency, each agency will separately enforce the conditions of the permits, licenses, and certificates which it issues and pertinent regulations or orders issued by the agency. Enforcement, as used in this memorandum of understanding, means the discovery of a violation of law or the conditions of a certification or license, the issuance of a notice of violation, and subsequent actions for the imposition of sanctions.

To the extent practicable, each agency will consult fully with the other with respect to any enforcement action concerning matters which are the subject of this memorandum of understanding. Copies of all correspondence and other documents relating to such enforcement action will be furnished to the other agency on a timely basis.

The U.S.A.E.C. and the U.S.C.G. will exercise the functions described in this agreement so as to avoid duplication of regulation to the maximum extent consistent with their respective statutory obligations, public health and safety, and environmental protection. To this end, each agency may use personnel, facilities, advice, and information provided by the other agency for the purpose of carrying out its responsibilities.

The U.S.A.E.C. will have the primary responsibility for conducting the environmental impact reviews and preparing the environmental statements required by NEPA. The U.S.C.G. will participate in the preparation of the environmental impact statement with respect to Item 2 of Appendix "B" and other appropriate items that may be agreed upon. In addition, the U.S.C.G. will review the environmental impact statement and comment on other areas within its regulatory jurisdiction and in which the U.S.C.G. has special expertise, as required by NEPA.

b. *Technical Review of Plant Design*. The U.S.A.E.C. will exercise responsibility for the review of all matters related to radiological health and safety, including nuclear power plant safety, and to protection of the environment. The U.S.C.G. will exercise responsibility for review of matters related to the safe design and construction of the barge, to maritime safety, and to the protection of the marine environment

The U.S.A.E.C. will review the design of all pressure vessels and piping essential to radiological safety, including all structures, supports, and systems covered by Section III of the American Society of Mechanical Engineers' (ASME) Boiler and Pressure Vessel Code, plant structures, buildings, and foundations, plus all other systems containing radioactive materials and the systems and subsystems needed to control and activate such systems.

The U.S.A.E.C. reviews will be based on design requirements and guides presented in:

(1) Title 10, Chapter 1, Code of Federal Regulations.

(2) The U.S.A.E.C. "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants."

(3) U.S.A.E.C. Regulatory Guides.

Appendix "A" contains a list of areas of primary interest to, and within the primary review and inspection responsibilities of U.S.A.E.C., which have been identified by the U.S.C.G. as those in which U.S.C.G. also has an interest. Each item is further classified as to whether U.S.C.G. will accept the U.S.A.E.C. review and inspection without further action by U.S.C.G. (Column 1), or whether the U.S.C.G. will conduct a separate review of its own for matters of barge and maritime safety (Column 2).

The U.S.C.G. reviews will be based on 46 CFR, 33 CFR, and U.S.C.G. navigation and vessel inspection circulars.

Appendix "B" contains a list of areas of primary interest to, and within the primary review and inspection responsibilities of the U.S.C.G., which have been identified by the U.S.A.E.C. as those in which U.S.A.E.C. also has an interest. Each item is further classified as to whether U.S.A.E.C. will accept the U.S.C.G. review and inspection without further action by U.S.A.E.C. (Column 1) or whether the U.S.A.E.C. will conduct a separate review of its own for matters of radiological and nuclear power plant safety (Column 2).

c. *Inspections*. (1) *New Construction*. Except as otherwise provided for under Field Working Agreements, all inspection activities of the U.S.A.E.C. and the U.S.C.G. will be coordinated by the appropriate U.S.A.E.C. Regional Office(s).

The U.S.A.E.C. and the U.S.C.G. will exercise the same responsibilities with respect to inspections as they exercise with respect to technical review of plant design. The U.S.C.G. will advise the U.S.A.E.C. of any special inspection requirements related to the items of Appendix "A". The U.S.A.E.C. will advise the U.S.C.G. of any special inspection requirements related to the items of Appendix "B".

Either agency may request inspection assistance from the other agency, subject to the conditions of Section 5, Procedures, below.

(2) *Continuing Inspection and Reinspection at Site*. Areas of responsibility shall be as described for new construction and in Appendices "A" and "B".

(3) *Field Working Agreements*. The cognizant U.S.A.E.C. Regional Director and the cognizant U.S.C.G. Officer-in-Charge, Marine Inspection, or Captain of the Port will develop local working agreements as necessary relating to matters of concern to both agencies not specifically referenced in this memorandum and to the implementation of matters so referenced involving both initial licensing and certification and periodic following actions. It is the intent of the U.S.C.G. and the U.S.A.E.C. that these working agreements will be used to provide a means by which the different field organizations and procedures of the agencies will be accommodated. Such an accommodation is essential to the orderly and effective imple-

mentation of this memorandum.

All working agreements shall be reduced to writing, and copies shall be transmitted to the U.S.A.E.C. Director of Regulation and the U.S.C.G. Commandant for ratification. In all cases, copies of correspondence with the applicant or licensee on matters covered by this agreement shall be sent to the U.S.A.E.C. Director of Regulation and the Commandant, U.S.C.G.

d. *Attendance at Hearings*. Each agency agrees to furnish representatives, as needed, to attend hearings and other proceedings related to matters covered in this Memorandum of Understanding and to present their agency position on any such matters.

e. *Public Information*. All correspondence between U.S.C.G. alone and the applicant, and other documents addressed to the U.S.C.G. alone, relating solely to matters of U.S.C.G. primary responsibility as specified in Appendix "B" shall be subject to U.S.C.G. regulations implementing the Freedom of Information Act, 5 U.S.C. 552. All other documents and information transmitted in accordance with this memorandum of understanding will be subject to U.S.A.E.C. regulations implementing that act.

4. Schedule of Licenses, Permits, and Certifications. a. *U.S.A.E.C. License to Manufacture*. The U.S.A.E.C. may issue a license to manufacture one or more floating nuclear power plants at a given manufacturing site pursuant to 42 U.S.C. 2133. The U.S.A.E.C. may issue a license to manufacture on the basis of, among other things, the design and other information submitted by the applicant in accordance with the provisions of 10 CFR. Prior to issuance of a license to manufacture, the U.S.C.G. will write a letter of acceptance to U.S.A.E.C. indicating U.S.C.G. satisfaction with the preliminary design information involving the review areas specified in Appendix "B", Column 1 and Appendix "A", Column 2.

The U.S.A.E.C. will, prior to issuance of a license to manufacture floating nuclear power plants, perform a nuclear safety evaluation of the preliminary plant design and will prepare an environmental statement pursuant to NEPA that discusses the effects of the manufacture of the floating nuclear power plants on the environment at the place of manufacture and, in general terms, the anticipated effects on the ocean environment at one or more typical sites where such a plant might eventually be located. The environmental statement will be based on, among other things, information given in an environmental report submitted by the license applicant, including the generic consideration of the environmental impact of 1) construction at the typical operating sites, 2) the movement of the plant to the sites, 3) its permanent emplacement, 4) operation for a given lifetime, and 5) the subsequent decommissioning of the plant.

b. *U.S.A.E.C. Site Construction Permit*. The U.S.A.E.C. may issue permits to utilities desiring to construct and operate a nuclear power plant at an ocean site prior to commencement of construction of a breakwater or other appurtenant facilities at the proposed site. Such a permit will not be issued before a license to manufacture floating nuclear power plants has been issued. The U.S.A.E.C. will prepare an environmental statement, before such a construction permit is issued, that discusses the environmental effects of construction and operation of the plant at the proposed site, and will evaluate the safety of the construction and operation of a nuclear plant manufactured pursuant to the relevant manufacturing license. This site construction permit will be issued on the basis of, among other things, the design and other information presented by the applicant in accordance with Title 10, Chapter 1, Code of Federal Regulations. Before any site construction permit is issued, U.S.C.G. will write a letter of acceptance to U.S.A.E.C. indicating U.S.C.G. satisfaction with the site preliminary design information within the review responsibilities specified in Appendix "A", Column 2. and Appendix "B", Column 1.

c. *U.S.C.G. Certificate of Inspection*. Early in the manufacture of each plant, a formal application for inspection will be made by the manufacturer to the U.S.C.G. for each floating nuclear power plant. Prior to the departure of each barge from the manufacturing site, after the inspection of the barge and equipment to assure compliance with applicable regulations, including but not limited to the acquisition of a load line certificate, has been completed to the satisfaction of the U.S.C.G. Officer-in-Charge, Marine Inspection (OCMI), a certificate of inspection will be issued by the U.S.C.G. Prior to the issuance of this certificate, the U.S.A.E.C. Regulatory staff will write a letter of acceptance to U.S.C.G. indicating U.S.A.E.C. satisfaction with the systems and equipment involved in the review areas specified in Appendix "A", Column 1, and Appendix "B", Column 2.

d. *U.S.A.E.C. Operating License and U.S.C.G. Certificate of Inspection (Nuclear Vessel)*. At the operating site, prior to the fueling of the reactor, the barge will be inspected by the OCMI. When compliance with applicable regulations is assured, the U.S.C.G. will amend the existing certificate of inspection or issue a new one on the floating nuclear power plant. Prior to this certification or amendment action, the U.S.A.E.C. Regulatory staff will write a letter of acceptance to the U.S.C.G. indicating its satisfaction with the systems and equipment involved in the review areas specified in Appendix "A", Column 1.

Following or concurrent with the above, and after any requisite public hearings have been held, a facility operating license may be issued by the U.S.A.E.C. pursuant to 42 U.S.C. 2183 and 2235 Prior to such issuance, the U.S.C.G. will write a letter to the U.S.A.E.C. indicating U.S.C.G. satisfaction with the systems and equipment involved in the review areas specified in Appendix "B", Column 1. Prior to these actions, manning requirements for the safe operation of the nuclear power plant shall be as determined by the U.S.A.E.C. and shall include the issuance of necessary reactor operators licenses. Additional personnel licensing and certificating, and manning requirements to assure safe machinery operation and the safety of the barge and all personnel in the marine environment shall be specified by the U.S.C.G.

5. *Procedures*. a. *Correspondence*. Except as provided for in Field Working Agreements, the following will be promptly transmitted by the U.S.A.E.C. Director of Regulation or his designee: all official U.S.A.E.C. notices to license applicants or licensees, issuances of licenses, certifications from the U.S.C.G. specified in this memorandum, all correspondence to license applicants or licensees pertaining to licensing and certification reviews, and to inspection actions. The U.S.A.E.C. will promptly forward to the U.S.C.G. copies of correspondence with the applicant and other documents.

b. *Submittals and Drawings*. Under U.S.A.E.C. regulations in 10 CFR Part 50, the applicant will be required to submit design information for the entire floating nuclear power system, for which acceptable content and format are described in U.S.A.E.C. "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants." In addition, for the subject areas described in Appendix "B" the applicant will be required to submit drawings and design justifications following the format and procedures required by the U.S.C.G. Appendix "B" submittals, by U.S.C.G. standards, will be required to include sufficient design information to describe interface details between U.S.A.E.C. and U.S.C.G. reviews.

c. *Coordination of Reviews*. In routine matters relating to review of license applications, the Nuclear Coordinator, Office of Merchant Marine Safety, will be the contact within the U.S.C.G., and the designated Licensing Project Manager, Directorate of Licensing, will be the contact point within the U.S.A.E.C. Any questions which cannot be resolved at this level will be referred to intermediate levels of management within the U.S.C.G. and the U.S.A.E.C. If any questions cannot be resolved at these levels, they will be considered in direct communications between the Director of Regulation, U.S.A.E.C., and the Commandant, U.S.C.G.

d. *Coordination of Inspections*. In matters of field inspections, the cognizant U.S.A.E.C. Regional Director(s) and the cognizant U.S.C.G. Officer-in-Charge, Marine Inspections, or Captain of the Port will be the contact points for routine matters. Any questions which cannot be resolved at this level will be refererd to the Chief, Merchant Vessel Inspection Division, Office of Merchant Marine Safety, U.S.C.G., and the Deputy Director for Field Operations, Regulatory Operations, U.S.A.E.C. Any questions that cannot be resolved at this level will be referred to the Commandant, U.S.C.G., and the Director of Regulation, U.S.A.E.C.

e. *Avoidance of Duplicative Procedures and Documentation*. With respect to reviews and inspections in the areas identified in this memorandum of understanding, and especially where both agencies are involved in review or inspection of certain components or systems, it is recognized that full exercise of procedures of both the U.S.A.E.C. and the U.S.C.G. could result in delay and duplication of function. Normally, in cases wherein a component or system within the primary review or inspection responsibility of one agency is to be inspected or reviewed by the other, only the drawings and design documentation required by the first agency will be required of the licensee or applicant. In addition, the inspection standards and procedures of the first agency will normally apply.

f. *General Coordination*. For any matters with respect to specific licensing and certificate activities for floating nuclear power plants requiring continuing liaison between the U.S.C.G. and the U.S.A.E.C., including matters other than those specifically detailed above, and for resolving coordination problems at all levels, the contact points will be the Deputy Director of Licensing for Reactor Projects, Regulation, U.S.A.E.C., and the Chief, Merchant Marine Technical Division, U.S.C.G. For all matters other than specific licensing and certification activities for floating nuclear power plants, the contact points will be the Director of Government Liaison, U.S.A.E.C., and the Chief, Merchant Marine Technical Division, U.S.C.G.

g. *Schedule of Reviews and Inspections*. In order to coordinate inspection and review of all activities and efficiently implement regulatory requirements, each agency will advise the other of its schedules for accomplishing reviews and inspections required for the various licensing, certification, and recertification actions described in this memorandum. Where applicable, these schedules will be incorporated into the U.S.A.E.C. licensing project schedule. Representatives of each agency will be invited to coordination meetings held by the other agency pertaining to review and inspection activities which are to be coordinated. Each agency will give priority to keeping the agreed schedules and will keep the other agency advised of problems which are jeopardizing schedules, where coordination is required.

h. *Amendment of Appendices*. Appendices "A" and "B" may be amended by exchange of letters between the Director of Regulation, U.S.A.E.C., and Commandant, U.S.C.G.

6. *Other Laws and Matters*. Nothing in this memorandum of understanding shall be deemed to restrict, modify, or otherwise limit the application or enforcement of any laws of the United States with respect to matters specified herein, nor the application or enforcement of such laws to matters other than those specified herein, nor shall anything in this memorandum be construed as modifying the existing authority of either agency.

7. *List of Appendices.*

Appendix "A", Areas of Primary U.S.A.E.C. Review and Inspection Responsibilities with U.S.C.G. Review Input to U.S.A.E.C.

Appendix "B", Areas of Primary U.S.C.G. Review and Inspection Responsibilities with U.S.A.E.C. Review Input to U.S.C.G.

Dated: January 4, 1974.

L. M. MUNTZING,
Director of Regulation, U.S.A.E.C.

Dated: January 4, 1974.

C. R. BENDER,
Commandant U.S.C.G.

APPENDIX A

AREAS OF PRIMARY U.S.A.E.C. REVIEW AND INSPECTION RESPONSIBILITIES WITH U.S.C.G. REVIEW INPUT TO U.S.A.E.C.

Subject	*Col. 1* U.S.C.G. accepts complete review and inspection by U.S.A.E.C.	*Col. 2* U.S.C.G. separate non radiological safety review
A1. Evaluations (2.2.3)[1]	×	
A2. Design of Category I Structures (3.8)	×	
A3. Mechanical Systems and Components (3.9)	×	
A4. Reactor Coolant System and Connected Systems (5.0)	×	
A5. Engineered Safety Features (6.0)	×	
A6 Onsite Power Systems (8.3)	×	Requirements of IEEE 45 and 46 CFR Subchapter J.[2]
Power Supply Feeders (8.3.1.1(1))	×	Do.
Busing Arrangements and Loads Supplies from each Bus (2)[1] (3).	×	Do.
Interconnection Between Safety and Non-Safety Related Busses (5).	×	Do.
Equipment Capacities (7)	×	Do.
A7. Instrumentation and Control Systems for the Applicable Power Systems with the Assigned Power Supply Identified (10).	×	Do.[2]
A8. Electric Circuit Protection Systems Network (e.g., selective trip), Including Setting Criteria (11).	×	Do.[2]
Items below are under 8.3.1.1 of SAR Format also, but are numbered as listed on page 8.3-2 (SAR Format):		
A9. Fuel oil storage and transfer system (emergency power) (8).	×	Do.[2]
Cooling and heating systems (9)	×	Do.[2]
A10. Instrumentation and control systems with assigned power supply (10).	×	Do.[2]
Items below are under 8.3.1.1 of SAR Format also, but are numbered as listed on page 8.3-3:		
A11. Motor size, motor starting torque, and motor insulation (1), (2) and (3).	×	Do.[2]
A12. Interrupting capacity of switch-gear, load centers, control centers and distribution panels (4).	×	Do.[2]
A13. Electrical circuit protection (5)	×	Do.[2]
A14. Grounding requirements (6)	×	Do.[2]
A15. Independence of Redundant Systems (8.3.1.4)	×	
A16. Cable derating and cable trayfill (1)	×	Do.
A17. Cable routing in congested areas and areas of hostile environment (2).	×	
A18. Fire detection and protection in areas where cables are installed (4).	×	
Cable and Cable tray marking (5)	×	
A19. Area barriers and separation between redundant trays.	×	Requirements of IEEE-45 and 46 CFR Subchapter J.[2]
A20. D-C Power Systems (8.3.2)	×	Do.
A21. Fire Protection System (9.5.1), other than B4e	×	Do.
A22. Plant Emergency Lighting Systems (9.5.3)	×	
A23. Diesel Generator Fuel Oil Storage Transfer System (9.5.4).	×	
A24. Diesel Generator Cooling Water System (9.5.5)	×	
A25. Diesel Generator Starting System (9.5.6)	×	
A26. Main Steam Supply System (10.3)	×	
A27. Radioactive Waste Management (11.0)	×	
A28. Qualification Requirements for Nuclear Plants Personnel (13.1.3).	×	
A29. Technical Specifications (Table 16-1)	×	
A30. Site Related Items:		
a. Collision Barriers/Wave Attenuator (e.g., breakwater).	×	
b. Mooring System	×	USCG will conduct review and inspection of certain subcategories of the system.

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[1] Reference sections "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants" Revision 1, U.S. Atomic Energy Commission, Director of Regulation. USAEC has total responsibility for all subjects contained in this document. The subject areas identified in Appendix A indicate only those areas that the USCG has some interest & possible input.

[2] Applicant may apply for alternate or equivalent equipment or materials in accordance with normal regulatory procedures.

APPENDIX B

AREAS OF PRIMARY U.S.C.G. REVIEW AND INSPECTION RESPONSIBILITIES WITH U.S.A.E.C. REVIEW INPUT TO U.S.C.G.

Subject area	Col. 1 U.S.A.E.C. accepts complete review and inspection by U.S.C.G.	Col. 2 U.S.A.E.C. separate review for radiological safety effect
B1. Electrical System	×	
a. Hotel Electrical System (Galley, Lighting, etc.).		
b. Hull Related Electrical System, (Bilge, Trim Pumps, etc.).		
c. Emergency Electrical System (Lighting, Generator, Fire Detection, Hull Leakage Detection and other Vital Loads).		
d. Interior Communication.		Emergency plan requirements for radiological incidents.
e. Ship to Shore Communication.		
f. Cathodic Protection.		
g. Cable Selection.		
h. Circuit Protection.		
B2. Pollution	×	
a. Oil and Hazardous Substance Procedures and Safeguards.		
b. Waste Disposal (Non-Radioactive).		
c. Domestic Water and Sanitary System.		
B3. Boilers and Evaporators other than ASME Section III.	×	Interface with Sec. III systems location end arrangement applying to high energy line failure.
B4. Piping Systems and Pressure Vessels Plant-Related Systems (Complete Listing [1]).	×	
a. Flammable and Toxic Gas and Cryogenic Systems.		
b. Bulk Chemical Systems.		
c. Non-Essential Cooling Water System (Raw and Service).		Interface with containment penetrations.
d. Service Air Systems.		
e Fire Protection System.		
f. Heating Boiler Steam and Feedwater Systems.		
Hull-Related Systems.		
a. Weather-Deck Drainage System.		
b. Platform Drainage System.		
c. Platform Trim System.		
d. Fuel Oil Storage and Systems.		
B5. Structural Fire Protection	×	
B6. Hull	×	Requirements as needed for Category I structures.
a, Hull Girder.		
b. Local Strength.		
c. Machinery Foundations.		
d. Mooring Foundations.		
e. Materials.		
f. Wastage Allowance.		
g. Welding.		
h. Stability.		
i. Subdivision.		
j. Vibration Analysis.		
B7. Hull Arrangements	×	Location and arrangement applying to missile protection and high energy line failure. Emergency plan requirements for radiological incidents.
a. Personnel Accomodations.		
b. Service Area.		
c. Means of Escape, Fire Exits.		
d. Hospital Spaces.		
B8. Equipment	×	
a. Navigation and Anchorage Lights for Barge.		
b. Lifesaving Equipment.		
c. Cargo Gear (except fuel handling equipment).		
d. Deck Rails, Machinery Guards.		
e. Towing Equipment, (Anchors, Chocks, Procedures, etc.).		
B9. Non-Radiological Ventilation	×	
B10. Loadline (ABS) [2]	×	
B11. Dangerous Articles as Ship's Stores and Supplies	×	
B12. Site Related Item.		
a. Lighting and Marking of Breakwater	×	
b. Safety Equipment of Breakwater	×	

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[1] These are the only plant-related mechanical systems not identified in Appendix "A", to be reviewed and inspected by U.S.C.G.

[2] American Bureau of Shipping.

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40 FR 37110
Published 8/25/75

REGULATION OF NUCLEAR POWER PLANTS

Memorandum of Understanding

Both the Corps of Engineers, United States Army, and the United States Nuclear Regulatory Commission have responsibilities for assuring that nuclear power plants on coastal and inland navigable waters and at offshore sites are built and operated safely and with minimum impact on the environment. For the purpose of coordinating and implementing consistent and comprehensive requirements to assure effective, efficient and thorough regulation of nuclear power plants and to avoid conflicting and unnecessary duplication of effort and of standards related to overall public health and safety and environmental protection, the Corps of Engineers, United States Army, and the United States Nuclear Regulatory Commission have entered into a memorandum of understanding. The text of the memorandum is set forth below.

Dated at Washington, D.C., this 18th day of August 1975.

For the Nuclear Regulatory Commission.

SAMUEL J. CHILK,
Secretary of the Commission.

MEMORANDUM OF UNDERSTANDING BETWEEN THE CORPS OF ENGINEERS, UNITED STATES ARMY, AND THE UNITED STATES NUCLEAR REGULATORY COMMISSION FOR REGULATION OF NUCLEAR POWER PLANTS

1. *Purpose*. a. For the purpose of coordinating and implementing consistent and comprehensive requirements to assure effective, efficient and thorough regulation of nuclear power plants and to avoid conflicting and unnecessary duplication of effort and of standards related to overall public health and safety and environmental protection, the Corps of Engineers, United States Army (US Army CE) and the United States Nuclear Regulatory Commission (U.S.N.R.C.) have entered into this Memorandum of Understanding—subject to their respective statutory authorities. The agreement pertains to nuclear power electric generating stations using nuclear steam supply systems, including their appurtenant structures, located in or affecting navigable waters. In the case of a floating nuclear power plant, such structures include the electrical transmission lines from the plant to a landbased substation, the protective breakwater and mooring systems, and all appurtenant supporting facilities.

b. Nothing in this Memorandum of Understanding is to be interpreted as contravening the terms of the existing Memorandum of Understanding between the Atomic Energy Commission and the Department of Defense dated 14/16 Feb 1967, pursuant to Section 91b of the Atomic Energy Act of 1954, as amended.

2. *Statutory Background*. a. *The Corps of Engineers, United States Army (US Army CE)*. Pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403), the Secretary of the Army, acting through the US Army CE exercises regulatory authority over the construction of any structures in navigable waters of the United States, the dredging and/or filling of any navigable waters of the United States, and any other activity which would alter or modify the course, condition, location or capacity of a navigable water of the United States. This responsibility encompasses onshore as well as offshore activities when such activities affect the course, condition or capacity of a

navigable water of the United States. Navigable waters of the United States have been administratively defined by the US Army CE (33 C.F.R. 209.260) to generally include those waters, including the territorial seas, which are subject to the ebb and flow of the tide or which have been used, are used, or are susceptible of use as an instrument to transport interstate commerce.

The Outer Continental Shelf Lands Act (43 U.S.C. 1333(f)) extends the authority of the Secretary of the Army, acting through the US Army CE, to the prevention of obstruction to navigation in the navigable waters of the United States due to the construction of artificial islands and fixed structures on the outer continental shelf beyond the territorial sea.

Pursuant to Section 404 of the Federal Water Pollution Control Act Amendments of 1972 (33 U.S.C. 1344), the Secretary of the Army, acting through the US Army CE, exercises regulatory authority over the discharge of dredged or fill material in navigable waters at specified disposal sites. The selection of disposal sites will be in accordance with guidelines developed by the Administrator of the United States Environmental Protection Agency in conjunction with the Secretary of the Army. Furthermore, the Administrator can prohibit or restrict the use of any defined area as a disposal site whenever he determines, after notice and opportunity for public hearings, that the discharge of such materials into such areas will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishing areas, wildlife or recreation areas.

Under the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401 et seq.), the Secretary of the Army, acting through the US Army CE, is authorized to issue permits for the transportation of dredged material from the United States for the purpose of dumping into ocean waters. However, as "dumping" is defined by Section 3(f) of that Act, it does not include the construction of any fixed structure or artificial island nor the intentional placement of any device in ocean waters or on/or in the submerged land beneath such waters, for a purpose other than disposal when such construction or such placement is otherwise regulated by Federal law.

Where significant impacts on the quality of the human environment are expected to result from activities covered by an application for a permit under the above statutory provisions, the US Army CE must prepare an environmental impact statement pursuant to the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 et seq., before the Secretary of the Army, acting through the US Army CE, may issue the permit.

b. *The United States Nuclear Regulatory Commission (U.S.N.R.C.)*. The Energy Reorganization Act of 1974 (Pub. Law 93-438 (88 Stat. 1233)) abolished the Atomic Energy Commission, and Section 201 of that Act created the Nuclear Regulatory Commission and transferred to the U.S.N.R.C. all the licensing and related regulatory functions of the Atomic Energy Commission. Pursuant to the Energy Reorganization Act of 1974; Chapters 6, 7, 8, 10, and 16 of the Atomic Energy Act of 1974, as amended, 42 U.S.C. 2011 et seq.; and the rules and regulations issued pursuant thereto, the U.S.N.R.C. is authorized to license and regulate the construction and operation of, among other things, nuclear power plants, from the standpoint of the common defense and security and public health and safety. In addition, pursuant to the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. 4321 et seq., the U.S.N.R.C. is required to prepare an environmental impact statement on, and consider in its licensing actions, the effects on the quality of the human environment caused by the construction and operation of such plants.

3. *Agency Responsibilities*. a. *General Arrangements*. The U.S.N.R.C. will serve as "Lead Agency," exercising the primary responsibility in conducting environmental reviews and in preparing environmental statements for nuclear power plants covered by this Memorandum of Understanding. Except as otherwise indicated, all written communications of US Army CE to and from a license applicant or licensee relating to environmental analyses and reports will be transmitted through the U.S.N.R.C. Director of Nuclear Reactor Regulation or his designee. In particular, any actions requiring partial or complete shutdown of the nuclear power plant or changes from the design and operating limitations and conditions approved within the terms of this Memorandum of Understanding will be transmitted through the U.S.N.R.C. Director of Nuclear Reactor Regulation or his designee.

Except with respect to any actions requiring partial or complete shutdown of a nuclear power plant or changes from the design and operating conditions approved by either agency, each agency will separately enforce its pertinent regulations or orders and the conditions of the permits and licenses which it issues. Enforcement, as used in this Memorandum of Understanding, means the discovery of a violation of law of the conditions of a permit or license, the issuance of a notice of violation, and subsequent actions for the imposition of sanctions.

To the extent practicable, each agency will consult fully with the other with respect to enforcement actions concerning matters which affect the responsibilities of the other agency as described in this Memorandum of Understanding. Copies of correspondence and other documents relating to such enforcement action will be furnished to the other agency on a timely basis.

The U.S.N.R.C. and the U.S. Army CE will exercise the functions described in this agreement so as to avoid duplication of regulation to the maximum extent consistent with their respective statutory obligations, public health and safety, and environmental protection.

The U.S. Army CE, acting through the appropriate District Engineer, with the assistance of U.S. Army Corps of Engineers research and development centers, when such assistance is appropriate, will participate with the U.S.N.R.C. in the preparation of the environmental impact statements to include the drafting of material for the sections which consider and evaluate the following topics, as applicable, and the analysis leading thereto.

(1) Coastal erosion and other shoreline modifications, shoaling, and scouring;

(2) Siltation and sedimentation processes;

(3) Dredging activities and disposal of dredged materials; and

(4) Location of structures in or affecting navigable waters.

The applicant will comply with U.S. Army CE regulations in developing information needed for U.S. Army CE review. As do U.S.N.R.C. regulations, these regulations require the applicant to submit, at his expense, information required in support of his application. Once such information is received, the following procedure will apply to independent analysis of information received in any of these four areas. (An independent analysis is one requiring effort in addition to the analysis done by the U.S.N.R.C. and the U.S. Army CE staff.)

(1) U.S.N.R.C. will provide funding for such an independent analysis if U.S.N.R.C. agrees the independent analysis is needed and would normally be required by U.S.N.R.C. if U.S. Army CE were not involved.

(2) U.S. Army CE will require that the applicant pay contract or other costs of such analysis, as required in U.S. Army CE regulations, if U.S. Army CE determines that the independent analysis is needed, but U.S.N.R.C. does not agree that it is needed or does not agree that such analysis would be required under the regulatory procedures of U.S.N.R.C. In these cases, the contracting and collection of associated costs from the applicant will be the responsibility of the U.S. Army CE. The U.S.N.R.C. will be furnished copies of the results of the study.

In addition, the U.S. Army CE will review and comment on the draft environmental statement in other areas within its regulatory jurisdiction and areas in which the U.S. Army CE has special expertise, as required by NEPA.

b. *Inspections*. Within the scope of this Memorandum of Understanding, the U.S.N.R.C. and the US Army CE will exercise responsibilities for the same activities with respect to inspections as they exercise with respect to environmental reviews as discussed in 3.a. above.

c. *Public Hearings*. The U.S.N.R.C. will conduct a mandatory adjudicatory public hearing with the opportunity for public participation before an Atomic Safety and Licensing Board covering all environmental and radiological health and safety matters relating to the proposed issuance of a U.S.N.R.C. permit for construction of a nuclear power plant. When U.S.N.R.C. proposes to issue a limited work authorization for a nuclear power plant prior to issuance of a construction permit, a public hearing on site suitability and environmental issues will be held pursuant to the applicable U.S.N.R.C. regulations. An adjudicatory hearing will be also conducted prior to issuance of a U.S.N.R.C. license for operation of the nuclear power plant upon request of any person whose interest may be affected or if the U.S.N.R.C., on its own initiative, decides that such a hearing should be held.

The US Army CE, in connection with its statutory and regulatory requirements, will conduct public hearings when required (normally, when the US Army CE permit involves disposal of dredged or fill material).

On request, each agency will participate in any public hearings held by the other agency. Particularly, in the case of the U.S.N.R.C. hearings, the US Army CE will provide expert testimony, as required, in those areas (sections) covered in the U.S.N.R.C. Environmental Statements in whose preparation the US Army CE participated and those areas of special US Army CE expertise.

4. *U.S.N.R.C. Permits and Licenses and US Army CE Department of the Army Permits*. A U.S.N.R.C. permit to construct a nuclear power plant must be obtained prior to any commencement of any construction at the proposed site.[1] For certain nuclear power reactors, such as the floating nuclear power plants, such a construction permit will not be issued before the U.S.N.R.C. has issued a license to manufacture these reactors. The U.S.N.R.C. will prepare an environmental statement before such a construction permit is issued, discussing the environmental effects of construction and operation of the nuclear power plant at the proposed site; and the U.S.N.R.C. will also evaluate compliance with U.S.N.R.C. criteria for safe design, construction and operation of the nuclear plant including, if applicable, a plant manufactured pursuant to a manufacturing license. US Army CE will participate in the preparation of this environmental statement as described in Section 3, above. This construction permit will be issued on the basis of, among other things, the design and other information presented by the applicant in accordance with requirements of Title 10, Code of Federal Regulations, Chapter I.

It is anticipated that the single US Army CE Department of the Army permit, which authorizes all construction activities to be performed at the plant site, and the U.S.N.R.C. construction permit (or limited work authorization, as applicable) will be issued approximatey concurrenty for power reactors for which both agencies are authorized to issue permits. Each agency will promptly notify the other in writing of its issuance of a permit. If the U.S.N.R.C. issues a limited work authorization or grants a construction exemption in a situation where a US Army CE permit is also required, the U.S.N.R.C. will promptly notify the US Army CE in writing of the issuance of such an authorization or exemption. When the U.S.N.R.C. decides that it will grant a limited work authorization prior to issuance of a construction permit, the U.S.N.R.C. will advise the US Army CE of this decision. Both agencies will then coordinate their schedules of review and issuances of licenses and permits.

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[1] Some activities may be conducted under a limited work authorization.

Prior to these issuances, each agency will send to the other a letter commenting on the proposed issuance from the point of view of the reviews assigned to the sending agency in Section 3 above and stating its intention to approve or disapprove issuance of its own permit.

Each agency will caution the applicant that issuance of its permit does not alleviate the need for permits and licenses of other agencies.

Following the above agency actions, and after any requisite public hearings have been held, a facility operating license may be issued by the U.S.N.R.C. pursuant to 42 U.S.C. 2133, 2134, 2232, and 2235.

5. *Procedures.* a. *Correspondence.* The following documents, relating to US Army CE responsibilities as described in Section 3 of this Memorandum, will be promptly transmitted to the proper recipients by the U.S.N.R.C. Director of Nuclear Reactor Regudum, issuances of licenses pursuant to applicable statutes and regulations, and in accordance with the provisions of this memorandum, correspondence to license applicants or licensees pertaining to licensing and cerlation or his designee: official U.S.N.R.C. notices to license applicants or licensees affected by the provisions of this Memorantification reviews, and correspondence relating to inspection actions. The U.S.N.R.C will promptly forward to the US Army CE copies of correspondence with the applicant and other documents which affect the responsibilities of the US Army CE under the provision of this Memorandum.

b. *Public Information.* All correspondence to or from either agency dealing with matters which are the subject of this Memorandum of Understanding will be subject to the Freedom of Information Act. In addition, all correspondence flowing through the U.S.N.R.C. will be subject to § 2.790 of 10 CFR Part 2, which provides for routine disclosure of certain documents in public document rooms. Each agency will consult with the other agency before issuing any press releases on matters assigned to the other agency within this Memorandum of Understanding.

c. *Coordination of Reviews.* In routine matters relating to review of license applications, the appropriate U.S. Army Corps of Engineers District Engineer will be the contact point with the U.S. Army CE; and the designated Environmental Project Manager, Division of Reactor Licensing, will be the contact point within the U.S.N.R.C. Any questions which cannot be resolved at this level will be referred to intermediate levels of management within the U.S. Army and the U.S.N.R.C. If any questions cannot be resolved at these levels, they will be considered in direct communications between the Executive Director for Operations, U.S.N.R.C., and the Chief of Engineers, United States Army.

d. *Coordination of Inspections.* In matters of field inspections, the cognizant Directors of U.S.N.R.C. Regional Inspection and Enforcement Offices and the cognizant District Engineer will be the contact points for routine matters. Any questions which cannot be resolved at this level will be referred to intermediate levels of management within U.S. Army CE and U.S.N.R.C. Any questions that cannot be resolved at these levels will be referred to the Chief of Engineers, United States Army, and the Executive Director for Operations, U.S.N.R.C.

e. *Schedules of Reviews and Inspections.* In order to coordinate inspection and review activities and to efficiently implement regulatory requirements, each agency will advise the other of its schedules for accomplishing inspections and environmental reviews which have an effect on the activities of the other agency as defined in Section 3.a. of this Memorandum of Understanding. Where applicable, these schedules will be incorporated into the U.S.N.R.C. licensing project schedule. Representatives of each agency will be invited to coordination meetings held by the other agency pertaining to environmental review activities which are to be coordinated. Each agency will give priority to keeping the agreed schedules for environmental reviews and will keep the other agency advised of problems which are jeopardizing schedules.

f. *Amendment of Assignments.* The assignment of responsibilities of this Memorandum may be amended by exchange of letters between the Executive Director for Operations, U.S.N.R.C., and the Chief of Engineers, United States Army.

6. *Other Laws and Matters.* Nothing in this Memorandum of Understanding shall be deemed to restrict, modify, or otherwise limit the application or enforcement of any laws of the United States with respect to matters specified herein, nor the application or enforcement of such laws to matters other than those specified herein, nor shall anything in this Memorandum be construed as modifying the existing authority of either agency.

Dated: July 2, 1975.

LEE V. GOSSICK,
Executive Director for Operations,
Nuclear Regulatory Commission.

Dated: July 2, 1975.

W. C. GRIBBLE, Jr.,
Chief of Engineers of
US Army CE.

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40 FR 60115
Published 12/31/75
Comment Period expires 1/20/76
Effective 1/30/76

FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972

Second Memorandum of Understanding and Policy Statement Regarding Implementation of Certain NRC and EPA Responsibilities

Prior to the enactment of Pub. L. 92-500, the Federal Water Pollution Control Act Amendments of 1972 (FWPCA), the Atomic Energy Commission (AEC) had regulatory authority pursuant to the National Environmental Policy Act of 1969 (NEPA), and in consideration of the environmental impact of the discharge of pollutants and other factors, to impose limitations on the discharge of pollutants from nuclear power plants and other facilities or activities requiring an AEC license or permit, as a condition of such license or permit

The FWPCA now requires the Environmental Protection Agency (EPA) to establish (for use in permits for the discharge of pollutants to waters of the United States from point sources as defined in the FWPCA such as nuclear power plants, etc.) effluent limitations for all pollutants. The FWPCA provides that nothing under NEPA shall be deemed to authorize any Federal agency to review any effluent limitation or other requirement established pursuant to the FWPCA, or to impose, as a condition of any license or permit, any effluent limitation other than any such limitation established pursuant to FWPCA.

Pursuant to the authority of the FWPCA, EPA requires applicants for discharge permits to submit information required by EPA in order to establish effluent limitations in permits. Pursuant to the authority of NEPA, the Nuclear Regulatory Commission (NRC) may require applicants for licenses or permits to submit information required by NRC in order to evaluate and consider the environmental impacts of any actions it may take. Consequently, the informational needs imposed by the two agencies may be similar in the area of impacts on water quality and biota.

NEPA requires that all Federal agencies prepare detailed environmental statements on proposed major Federal actions which can significantly affect the quality of the human environment. A principal objective of NEPA is to require the agency to consider, in its decision-making process, the environmental impacts of each proposed major action and the available alternative actions. Both EPA and NRC have responsibilities pursuant to NEPA regarding the issuance of licenses or permits for nuclear power plants and certain other facilities.

The purpose of the memorandum is to clarify the respective roles of EPA and NRC in the decision-making processes concerning nuclear power plants and other facilities requiring an NRC license or permit.

In late 1973, the Chairman of the Council on Environmental Quality (CEQ) wrote to the Chairman of the then AEC and the Administrator of EPA suggesting steps that might be taken "to make the analysis of the water quality impact of nuclear power plants more effective and more meaningful and, at the same time, reduce demands for data being placed upon applicants for licenses."

In summary, CEQ suggested that AEC and EPA:

(1) Explore mechanisms available to assure that applicants' environmental reports to AEC contain sufficient data to satisfy EPA requirements on water quality matters;

(2) Consider the possibility of preparing a single impact statement to meet AEC's requirements under NEPA and EPA's requirements under FWPCA; and

(3) Consider the possibility of unified hearings.

In response to CEQ's suggestions, AEC and EPA developed the Proposed Second Memorandum of Understanding regarding their respective responsibilities under NEPA and FWPCA, which was published in the FEDERAL REGISTER for public comment on ovember 7, 1974 (39 FR 39490). Comments on the Proposed Second Memorandum of Understanding were received from 15 sources representing more than 200 electric utilities, three states, one river basin commission, and one regional office of EPA.

On January 29, 1973, the AEC published in the FEDERAL REGISTER a first "Memorandum of Understanding Regarding Implementation of Certain Complementary Responsibilities" between AEC and EPA under the Federal Water Pollution Control Act Amendments of 1972. On the same date the AEC published in the FEDERAL REGISTER an Interim Statement of Policy concerning the effect of section 511 of the FWPCA upon the AEC's statutory responsibility and authority under NEPA in licensing actions covered by 10 CFR Part 50, Appendix D (now superseded by 10 CFR Part 51). Both the first Memorandum and Interim Policy Statement were made effective upon publication, but comments were invited from interested persons with a view to possible amendments to the Interim Policy Statement.

After consideration of comments to both notices and other relevant factors, NRC and EPA have entered into the Second Memorandum of Understanding set forth below and NRC has adopted the revised Policy Statement set forth in Appendix A to this Second Memorandum. The revised Policy Statement will serve as the legal framework for NRC decision-making concerning licensing matters covered by NEPA and FWPCA section 511. The January 29, 1973, Memorandum is superseded by the present Second Memorandum of Understanding.

The significant changes from the language of the Proposed Second Memorandum of Understanding and the significant comments received on the Second Memorandum are summarized below:

1. A number of comments were received .concerning NRC–EPA–State relationships. The principal comments are discussed below:

a. It was recommended that the NRC–EPA–State relationship be clarified and that States should be made a full party to any agreement of understanding on specific projects. The requested clarification is provided in Sections 8 & 9 of this Memorandum. Both NRC and EPA plan to work closely with States in all cases; however, it was not considered practical to make the 50 States a party to this Memorandum at this time. NRC and EPA plan to work with States in order to achieve the substance of the Memorandum on a State-by-State basis.

b. It was recommended that the States should be informed of the results of the EPA, NRC, and Energy Research and Development Administration (ERDA) working groups. Eight such working groups covering the various biological and engineering areas of interest for section 316 (a) and (b) determinations were established by EPA to generally identify the information on water quality and biota that must be included in applicants' environmental reports to permit early water quality decisions. This will be done by EPA in the form of a section 316(a) technical manual and a section 316(b) technical manual.

c. It was stated that when a State is the permit issuance authority pursuant to section 402, EPA should not duplicate the State's evaluation of compliance with FWPCA requirements. EPA will not duplicate State efforts; however, section 402(d) provides for EPA review of the State action.

d. It was urged that EPA require that State permit programs include procedures for early determinations under sections 316(a) and (b) of the FWPCA. It is the view of the parties that the States with approved National Pollutant Discharge Elimination System (NPDES) permit programs have authority to establish a procedure similar to the early permit issuance procedure discussed in Paragraph 3. hereof. Both EPA and NRC strongly encourage States which have such authority to institute a similar, early issuance procedure and to cooperate with EPA and NRC in implementing this procedure.

e. It was pointed out that a number of States have adopted "Permit and Install Regulations", e.g., Ohio, South Carolina and New York, which must be taken into account. Such State regulations will be taken into account by NRC and EPA.

2. It was suggested that the fact should be clarified that a single environmental statement will be prepared to meet NRC and EPA needs. This comment has been adopted.

3. It was suggested that an actual section 402 discharge permit should be issued rather than a "Preliminary Determination" and the effective date of such permit should coincide with the NRC operating license issuance date. This suggestion was partially adopted, by providing for early issuance of section 402 permits. Such permits will contain appropriate terms and conditions for all discharge of pollutants expected during the life of the permit (five years maximum) and terms and conditions with regard to cooling water intake structures and Section 316(a) determinations concerning thermal discharges. Additional permit terms and conditions for discharges not contemplated during the life of the permit (such as certain chemical and other releases not expected until operation startup) may be derived from applicable State water quality standards and applicable new source performance standards contained in 40 C.F.R. Chapter I, Subchapter N. Permits will be reissued, as appropriate, and any reissued permit, to be effective at the commencement of actual discharge as provided above, may require additional limitations and controls based on data gathered during the initial permit or may require additional section 316(a) and (b) studies for the purpose of confirming conclusions reached from previous predictive studies.

4. It was suggested that NRC's role in the water quality area should be clarified and NRC should discontinue its practice of determining compliance with requirements of the FWPCA and should cease evaluating alternatives relating to environmental effects regulated under the FWPCA. This matter is addressed in the Policy Statement (Appendix A to this Memorandum) which is discussed in more detail below.

5. It was recommended that NRC should initiate a rulemaking proceeding to develop regulations through which the environmental effects of activities subject to the FWPCA can be factored into the cost-benefit analyses performed in each individual licensing proceeding. Prior to completion of that rulemaking, NRC should continue to evaluate, on a case-by-case basis, the environmental effects of facility systems either as proposed by applicants or as described in the Section 401 certificate or Section 402 permit issued for the particular facility, as appropriate. This suggestion was not adopted since NRC does not feel it would be practical at this time to treat the many individual and site specific facets of water quality impacts in a generic fashion.

6. It was pointed out that the EPA headquarters-regional responsibility needs to be clarified, i.e., the Assistant Administrator for Enforcement is named as the prime EPA contact. The matter has been clarified in the Memorandum by stating that the principal EPA contact shall be the Assistant Administrator for Enforcement and/or the Regional Administrator or his designee as appropriate.

7. It was suggested that once a "Preliminary Determination" has been issued at the construction permit stage, one should not have to go through the "Preliminary Determination" at the operating license stage. The "Preliminary Determination" concept has been dropped and actual Section 402 permits will be issued; however, as indicated in the response to Comment 3, there will be need for reissuance of the permits at appropriate intervals.

8. It was suggested that Paragraph 1 of the applicability statement be broadened to apply to all environmental impacts of cooling systems, e.g., the effect of chemical effluents, entrainment of biota, etc. EPA's early section 402 permit will contain terms and conditions regarding thermal releases and cooling water intake requirements. In addition, with regard to chemical or other requirements, where an applicant seeks a variance from new source performance standards or any other applicable EPA regulations relative to discharges; EPA will consider the issues as necessary at the early section 402 permit stage. (See response to comment number 3)

9. The question was raised as to whether discharge permit requirements will be made a part of the NRC environmental technical specifications. The matter of incorporation of permit requirements will depend on a case-by-case application of the requirements of NEPA and the Policy Statement set forth in Appendix A to the Memorandum.

10. It was stated that the terms and conditions of Section 401 certifications must not be changed between the Construction Permit and Operating License stage. Section 401 certifications are subject to change pursuant to section 401 (a) (3) of the FWPCA and are, therefore, beyond the scope of this Memorandum.

11. It was noted that the proposed Memorandum should be coordinated with the appropriate river basin commissions. Activities under the Memorandum will be coordinated with appropriate river basin commissions.

12. It was suggested that only the existence of significant issues should serve as a basis for revision of the "Preliminary Determination" at the time of issuance of the NPDES permit. It is suggested that "good cause" be replaced by "significant issues". As indicated above, the concept of "Preliminary Determinations" has been dropped in favor of the actual issuance and reissuance of section 402 permits.

In summary, the Memorandum:

1. Specifies the statutory authority of both agencies for entering into the Memorandum.

2. Defines those licensing and regulatory activities to which the Memorandum shall be applicable.

3. Designates NRC as the lead agency for preparation of environmental statements for the identified activities as provided for in § 1500.7(b) of the CEQ Guidelines for Preparation of Environmental Impact Statements (August 1, 1973).

4. Specifies that NRC and EPA will work together to identify needed environmental information for early evaluations related to impact from the identified activities on water quality and biota.

5. Provides for EPA to exercise its best efforts to evaluate impacts on water quality and biota as far as possible in advance of the issuance of NRC's final environmental impact statement for any covered activity and specifies that EPA and NRC will maintain close working relationships during the entire environmental review process.

6. Specifies that EPA will issue to the applicant, where appropriate, in light of substantive requirements, a complete Section 402 permit as far as possible in advance of authorization by the NRC of any commencement of construction or issuance by NRC of a license or early site approval, whichever is applicable.[1] Such permits will contain appropriate terms and conditions for all discharges of pollutants expected during the life of the permit (five years maximum) and terms and conditions with regard to cooling water intake structures and Section 316(a) determinations concerning thermal discharges. Additional permit terms and conditions for discharges not contemplated during the life of the permit (such as certain chemical and other releases not expected until operation startup) may be derived from applicable State water quality standards and applicable new source performance standards contained in 40 CFR Chapter I, Subchapter N. Permits will be reissued, as appropriate, and any reissued permit, to be effective at the commencement of actual discharge as provided above, may require additional limitations and controls based on data gathered during the initial permit or may require additional section 316 (a) and (b) studies for the purpose of confirming conclusions reached from previous predictive studies. It is expected that the early issuance of Section 402 discharge permits will assure, to the maximum extent possible, that considerations regarding impacts on water quality and biota will not result in the need for significant changes in plant design or in the costs and benefits of the operation of the facility subsequent to the completion of NRC's environmental review.

7. Specifies that EPA and NRC will consider the feasibility of holding combined or concurrent hearings on EPA's proposed section 402 permits and NRC's proposed issuance of construction permits or other activities where appropriate.

8. Rescinds the Memorandum of Understanding Regarding Implementation of Certain Complementary Responsibilities under the FWPCA and dated January 15, 19 and 22, 1973 (38 FR 2713).

After consideration of the comments received on the Interim Policy Statement and other factors involved, the NRC has adopted the revised Policy Statement set forth in Appendix A to the Memorandum. The significant changes from the language of the previous Interim Policy Statement are as follows:

a. Additional language has been included to make it clear that limitations imposed through the exercise of State authority preserved by section 510 of the FWPCA will be regarded by NRC as minimum limitations if they address matters different from matters addressed by other limitations imposed pursuant to the FWPCA.

b. The bases for cost-benefit analyses of alternatives have been clarified and modified. First, the specific requirement that, in designated circumstances, NRC independently determine the matter of compliance with FWPCA limitations and requirements has been deleted. NRC believes that in light of the general requirement that full certifications regarding compliance be furnished to it prior to license or permit issuance pursuant to section 401, and in light of the provisions of the memorandum providing for early issuance of permits pursuant to section 402, due regard will be given to the compliance matter within the NRC regulatory context without NRC assuming an independent and essentially duplicative function in this regard. Second, the requirement that environmental impact be evaluated on the basis of discharges or other activities at the level of FWPCA limitations or requirements has been replaced by the requirement that environmental impact simply be evaluated. Whether that evaluation should be conducted at the level of the FWPCA requirements or at some level more protective of the environment will depend upon such factors as the physical nature of the facility and other circumstances of the case. Third, the provisions regarding alternatives have been modified and simplified so as to provide that NRC will not require adoption of an alternative in order to minimize impacts on water quality and biota that are subject to FWPCA limitations or requirements.

c. A new Paragraph has been added in response to a comment that the status of certifications issued pursuant to section 21(b) of the FWPCA as in effect immediately prior to the date of enactment of the FWPCA should be clarified. In addition, the definition of FWPCA limitations or other requirements has been expanded to include limitations or other requirements of State law preserved by Section 510 of the FWPCA which have been imposed as license conditions pursuant to section 401(a)(2) of the FWPCA, and other paragraphs in the Policy Statement have been modified as appropriate to reflect this expanded definition.

d. A new Paragraph has been added to address the situation where limitations or other requirements with respect to heated effluents have been promulgated or imposed but a request for alternative effluent limitations under section 316(a) may be filed and no limitations under section 316(a) have yet been imposed. Under these circumstances less stringent limitations or other requirements could be imposed with respect to heated effluents under section 316(a). The NRC would in this situation retain authority under NEPA, where necessary from the standpoint of environmental protection, to impose its own requirements with respect to heated effluents which were less stringent than or equally stringent as those promulgated or imposed under the various sections of the FWPCA other than Section 316(a). It is recognized that any such NRC requirements regarding heated effluents may be subject to modifications in light of the provisions of any later section 402 permit. Of course, where an early discharge permit is required, any NRC requirements would need to be consistent with the terms of the permit, and paragraph 8 of the Policy Statement would be inapplicable.

e. Finally, a new Paragraph 6 has been added to provide for an orderly transition period for proceedings, where the application and environmental report had been filed prior to enactment of the FWPCA, by affording recognition to proposals by the applicants to abide by more stringent requirements.

No comments were received on the Interim Policy Statement from any governmental agency or environmental organization. The comments that were received by NRC generally reflected the opinion that NRC was precluded by section 511 of the FWPCA from considering any water quality matters generally covered by the FWPCA regardless of the status of FWPCA implementation, and that the Interim Policy Statement would result in duplication of effort and confusion in licensing proceedings because of the evolving nature of FWPCA requirements. The NRC believes that NEPA and FWPCA require that NRC continue to exercise its NEPA responsibility to evaluate environmental impacts. The revised Policy Statement set forth in Appendix A to the Memorandum of Understanding seeks to avoid duplication of effort to the maximum extent consistent with statutory requirements. The NRC recognizes that some limited duplication of effort will result from the NRC continuing to evaluate environmental impact regardless of the status of FWPCA implementation but believes that this limited duplication of effort is a necessary incident to a proper implementation of section 511.

Several comments suggested that Paragraph 3. of the Interim Policy Statement was inconsistent with Paragraphs 4. and 5. dealing with alternatives. Revised paragraph 4 indicates that NRC will not require adoption of an alternative because it would produce less water pollution than allowed by FWPCA limitations or requirements. However, NRC would not be precluded from insisting on an alternative which is a better environmental solution taking into account total impacts such as air quality, aesthetics, etc., simply because it also produces less water pollution. Thus, for example, if a plant with once through cooling system complied with FWPCA thermal effluent limitations under section 316(a) of the FWPCA, more stringent thermal limita-

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[1] See 10 CFR Part 2, Appendix A, Paragraph I(c).

tions would not be imposed by NRC as a result of consideration of another cooling system as an alternative unless matters not covered by the thermal effluent limitations, such as effects of fogging, indicated that such adoption was warranted.

Accordingly, pursuant to NEPA, FWPCA, Section 161 of the Atomic Energy Act and the Energy Reorganization Act of 1974, notice is hereby given that NRC and EPA with the concurrence of CEQ have entered into the following Memorandum of Understanding.

The NRC and EPA invite all interested persons to submit written comments or suggestions for consideration in connection with the Memorandum. The comments should be sent to the Secretary of the NRC, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section on or before January 20, 1976. Consideration will be given to such submissions with the view to possible further amendments. Copies of comments received may be examined at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C.

On January 27, 1976, NRC and EPA will hold a meeting **to discuss the Memorandum and answer questions. All interested persons are invited to attend, provided that notice of intent to attend is received by NRC prior to Jan. 20, 1976. The meeting will be held at NRC's Offices at 7920 Norfolk Avenue, Bethesda, Maryland, beginning at 9:30 a.m. in Room P–118.**

Dated at Washington, D.C. this 23rd day of December 1975.

For the Nuclear Regulatory Commission.

SAMUEL J. CHILK,
Secretary of the Commission.

SECOND MEMORANDUM OF UNDERSTANDING REGARDING IMPLEMENTATION OF CERTAIN NRC AND EPA RESPONSIBILITIES

Prior to the enactment of P.L. 92–500, the Federal Water Pollution Control Act Amendments of 1972 (FWPCA), the Atomic Energy Commission (AEC) had regulatory authority pursuant to the National Environmental Policy Act of 1969 (NEPA), in consideration of the environmental impact of the discharge of pollutants and other factors, to impose limitations on the discharge of pollutants from nuclear power plants and other facilities or activities requiring an AEC license or permit, as a condition of such license or permit.

The FWPCA now requires the Environmental Protection Agency (EPA) to establish (for use in permits for the discharge of pollutants to navigable waters of the United States from point sources as defined in the FWPCA, such as nuclear power plants, etc.) effluent limitations for all pollutants. The FWPCA (section 511) provides that nothing under NEPA shall be deemed to authorize any Federal agency to review any effluent limitation or other requirement established pursuant to the FWPCA, or to impose, as a condition of any license or permit, any effluent limitation other than any such limitation established pursuant to the FWPCA.

Pursuant to the authority of the FWPCA, EPA requires applicants for discharge permits to submit information required by EPA in order to establish effluent limitations in permits. Pursuant to the authority of NEPA, NRC may require applicants for licenses or permits to submit information required by NRC in order to evaluate and consider the environmental impacts of any actions it may take. Consequently, the informational needs imposed by the two agencies may be similar in the area of impacts on water quality and biota.

The NEPA requires that all Federal agencies prepare detailed environmental statements on proposed major Federal actions which can significantly affect the quality of the human environment. A principal objective of NEPA is to require the Agency to consider in its decision-making process the environmental impacts of each proposed major action and the available alternative actions. Both EPA and NRC have responsibilities pursuant to NEPA regarding the issuance of licenses or permits for nuclear power plants and certain other facilities.

The purpose of the memorandum is to clarify the respective roles of EPA and NRC in the decision-making processes concerning nuclear power plants and other facilities requiring an NRC license or permit.

Requirements under the FWPCA which affect actions for NRC include: (1) The requirement under section 401 of the FWPCA for a state certification to be received by NRC prior to the issuance of a license or permit to conduct any activity which may result in any discharges into navigable waters; (2) the requirement under section 301 of the FWPCA that a Section 402 National Pollutant Discharge Elimination System (NPDES) permit be issued for the discharge of any pollutant; (3) the possibility that variances from section 301 or 306 thermal effluent limitations may be granted under Section 316(a); (4) the requirement under section 316(b) that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact; and (5) the provisions of section 511 as discussed above. Recognizing (1) NRC's and the applicant's need for early evaluation of impacts on water quality and biota that may arise from nuclear power plants, and certain other activities requiring an NRC license or permit which are subject to the requirements of 10 CFR 51.5 (a); (2) EPA's and NRC's desire to reach such evaluations consistent with the requirements of the FWPCA and NEPA, and (3) the need for minimizing duplication of effort, EPA and NRC agree that pursuant to their statutory authorities:

1. NRC will exercise its responsibility and authority under NEPA as modified by Section 511 of the FWPCA in accordance with the statement of policy set forth in Appendix A hereto. The Memorandum of Understanding Regarding Implementation of Certain Complementary Responsibilities Under the FWPCA and dated January 15, 19 and 22, 1973 (38 FR 2713) is hereby rescinded.

2. Paragraphs 3 through 14 of this Memorandum of Understanding shall apply to requirements for the control and consideration of impacts on water quality and biota associated with the licensing and regulation, including early site approval,[1] of the following plants or facilities:

a. Nuclear power and test facilities,
b. Nuclear fuel reprocessing facilities,
c. Uranium isotope enrichment facilities.
d. Nuclear fuel fabrication plants.
e. Uranium hexafluoride conversion plants,
f. Uranium milling plants, and
g. Nuclear waste treatment and storage plants.

3. NRC and EPA will work together to identify and consolidate the environmental information needed for early evaluations related to impacts on water quality and biota under the FWPCA with the objective that the scope, form and timeliness of the information to be submitted by the applicant satisfy the requirements of both Agencies. This will include information needed for issuance of State water quality certifications pursuant to section 401 and NPDES permits pursuant to section 402, (including where applicable section 316(b) considerations regarding best technology available as applied to cooling water intake structures and section 316(a) determinations regarding the granting of alternative effluent limitations for the thermal component of discharges) and information needed to evaluate the environmental impact of the facility based on compliance with FWPCA requirements.

4. Where a facility specified in section 2 of this Memorandum is a "new source" (as defined under Section 306 of the FWPCA) and EPA is the permit issuing authority, EPA has a responsibility to comply with section 102 (2)(C) of NEPA. EPA and NRC intend that a single environmental impact statement will be prepared for the facility, and that NRC will be the lead agency for preparation of such a statement as provided in § 1500.7(b) of the CEQ guidelines for Preparation of Environmental Impact Statements (August 1, 1973).

(a) EPA will parfticipate in the preparation of the water quality and related sections of the draft statement prepared by NRC staff. EPA may provide assistance to the NRC staff in areas (other than water quality) where EPA has jurisdiction or expertise.

(b) During the draft statement comment period, EPA will review and comment pursuant to section 309 of the Clean Air Act, as amended, and § 1500.7(b) of the CEQ Guidelines for Preparation of Environmental Impact Statements (August 1, 1973) on the draft environmental impact statement prepared by NRC staff. EPA will participate with NRC in the review of comments on the draft EIS and in the preparation of the final EIS.

(c) Where there are areas of disagreement that cannot be resolved prior to issuance of the final statement, both NRC's and EPA's views shall be accurately set forth in the final statement.

(d) It is expected that where EPA does not agree with any of the discussions, analyses and conclusions of the NRC staff as set forth in the final environmental impact statement, EPA may petition for leave to intervene pursuant to 10 CFR 2.714 in any proceeding pending before an NRC atomic safety and licensing board on the license or permit application at issue in order to have its opposing views considered further on their merits by NRC.

(e) In any hearing held by EPA pursuant to 40 CFR 125.36 regarding the issuance of a permit under Section 402, only those issues concerning matters within EPA's regulatory jurisdiction will be considered, and those NEPA issues outside of EPA's regulatory jurisdiction will be resolved in the NRC impact statement and, if necessary, hearing process.

5. NRC will take the lead in communicating to the applicant those minimum NRC and EPA requirements for information to facilitate their respective environmental evaluations. Requests for additional information, as needed in specific situations, may be directed to the applicant by EPA. Such requests will be coordinated with NRC to the maximum extent practicable in order to avoid duplication of effort.

6. EPA and NRC will meet, as appropriate, at an early time prior to and/or during the environmental review process for each facility or plant specified in Section 2 of this Memorandum to discuss potential impacts on water quality and biota.

7. EPA will exercise its best efforts to evaluate the levels of discharges and impacts on water quality and biota pursuant to sections 402 and 316(a), as appropriate, and complete cooling water intake structure evaluations pursuant to section 316(b) as far as possible in advance of the planned date of issuance by NRC of the final environmental impact statement for the construction permit or operating license for each nuclear power reactor, EPA also will exercise its best efforts to make such evaluations

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[1] See 10 CFR Part 2, Appendix A, Paragraph I(c).

as far as possible in advance of the planned date of issuance of the final environmental impact statement for any other plant or facility specified in section 2 of this Memorandum, or issuance of early site approvals associated with nuclear power and other facilities.

Further, where possible, EPA's comments on NRC's draft environmental impact statement for each such facility or plant will reflect such evaluations. EPA will, if necessary, undertake to revise existing NPDES regulations in order to establish a procedure for issuance to the applicant (copy to NRC), where appropriate in light of the substantive requirements of section 402, of a complete section 402 permit as soon as possible prior to the planned date of authorization by the NRC of any commencement of construction[8] or issuance by NRC of a license, or early site approval, whichever is applicable.

Such permits will contain appropriate terms and conditions for all discharges of pollutants expected during the life of the permit (five years maximum) and terms and conditions with regard to cooling water intake structures and section 316(a) determinations concerning thermal discharges. Additional permit terms and conditions for discharges not contemplated during the life of the permit (such as certain chemical and other releases not expected until operation startup) may be derived from applicable State water quality standards and applicable new source performance standards contained in 40 CFR, Chapter I, Subchapter N. Permits may be reissued, or modified as appropriate, and any reissued or modified permit, to be effective at the commencement of actual discharge as provided above may require additional limitations and controls based on data gathered during the initial permit or may require additional section 316(a) and (b) studies for the purpose of confirming conclusions reached from previous predictive studies. Applications for permit reissuance as provided above will be evaluated by EPA in light of a policy to assure to the maximum extent possible that subsequent considerations regarding impacts on water quality and biota will not result in the need for significant changes in plant design or in the costs and benefits of the operation of the facility subsequent to the completion of NRC's environmental review.[9]

8. EPA will work closely with NRC in connection with NRC's efforts with State and regional authorities to assure that water quality certifications pursuant to section 401 for the facilities specified in section 2 that require such certification are issued in advance of the planned date of issuance of NRC staff's final environmental impact statement for the facility. Where needed EPA also will work closely with NRC in connection with NRC's efforts with State and regional authorities to assure that discharge permits pursuant to section 402 for facilities specified in section 2 are issued as soon as possible prior to the planned date of authorization by NRC of any commencement of construction or issuance by NRC of a license, or early site approval, whichever is applicable.

9. It is the view of the parties that the States which have approved NPDES permit programs have authority to establish a procedure similar to the early permit issuance procedure discussed in Paragraph 7 hereof Both EPA and NRC strongly encourage States which have such authority to institute an early issuance procedure relevant at least to thermal discharge and intake structure determinations and other discharges anticipated during the life of the permit and to cooperate with EPA and NRC in implementing this procedure.

10 EPA and NRC will maintain close contact on water quality and related matters during the entire environmental review, including:

(1) Open interagency communications, and mutual cooperation and coordination on all relevant water quality matters;

(2) A status meeting, where appropriate, after completion of the public comment period on NRC staff's draft environmental impact statement; and

(3) Notification to the other Agency, by the Agency first becoming aware of the situation, at any point during the environmental review or subsequent thereto, of any significant new considerations that develop, e.g., a major change in plant design or the identification of significant considerations regarding impacts on water quality or biota that were not previously evaluated as may result from a major change in plant design.

11. EPA and NRC will consider the feasibility of holding combined or concurrent hearings on EPA's section 402 permits and NRC's construction permits, or other actions, on a case-by-case basis. If there are areas involving impact on water quality or biota where there are significant differences of opinion between NRC and EPA, every reasonable attempt will be made to identify and resolve these differences prior to the planned date of issuance of NRC's final environmental statement.

12. The principal NRC contact under this Memorandum of Understanding shall be the Assistant Director for Environmental Projects. The principal EPA contact under this Memorandum of Understanding shall be the Assistant Administrator for Enforcement, and/or the Regional Administrator or his designee as appropriate.

13. Nothing in this Memorandum of Understanding is intended to restrict the statutory authority of either Agency. The Memorandum of Understanding regarding NRC-Licensed Facilities and dated August 21 and 27, 1973 (38 FR 24936) shall remain in effect in accordance with its terms.

14. This Memorandum of Understanding shall take effect on January 30, 1976 after the signing by authorized representatives of the respective Agencies and approval by the Council on Environmental Quality. The Memorandum shall apply to all pending and future applications for licenses or permits covered by paragraphs 1 and 2 except that, with respect to applications for licenses or permits for facilities and plants docketed prior to the effective date of this Memorandum, Paragraphs 2 through 14 shall only be applied to the maximum extent practicable. This Memorandum of Understanding and Appendix A hereto supersede the Memorandum of Understanding Regarding Implementation of Certain Complementary Responsibilities Under the FWPCA and dated January 15, 19 and 22, 1973 (38 FR 2713) and associated Interim Policy Statement (38 FR 2679)

Dated at Washington, D.C. this 17th day of December 1975.

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION,

LEE V. GOSSICK,
Executive Director for Operations.

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

STANLEY W. LEGRO,
Assistant Administrator for Enforcement.

APPROVED BY THE COUNCIL ON ENVIRONMENTAL QUALITY FOR THE COUNCIL,

GARY WIDMAN,
General Counsel.

APPENDIX A—POLICY STATEMENT ON IMPLEMENTATION OF SECTION 511 OF THE FEDERAL WATER POLLUTION CONTROL ACT (FWPCA)

1. Applicability: This statement and Paragraph 1 of the Memorandum shall apply to all licensing proceedings subject to 10 CFR Part 51, involving facilities or activities which may result in the discharge of a pollutant into the navigable waters, as defined in section 502(12)(A) of the FWPCA.

2. Definition of Terms. As used in this statement: a. Limitations or other requirements promulgated or imposed pursuant to the FWPCA means effluent limitations or other requirements promulgated or imposed pursuant to sections 208(e), 301, 302, 303(e), 304(b), 306, 307, 316, 318, 401, 402, 403, or 404 of the FWPCA. It also includes (1) water quality standards continued in effect or promulgated pursuant to Sections 303(a), 303(b), or 303(c) of the FWPCA; (2) maximum daily loads for pollutants and maximum daily thermal loads, promulgated pursuant to section 303(d) of the FWPCA; and (3) limitations or other requirements of State law under authority preserved by section 510 of the FWPCA, but only if and to the extent that such limitations or other requirements covered by this Paragraph (a)(3) are imposed and set forth in a certification pursuant to Section 401(d) of the FWPCA, or are imposed as a condition in the license pursuant to section 401(a)(2) of the FWPCA, or are imposed and set forth as a condition in a permit issued pursuant to section 402 of the FWPCA. It does not include effluent limitations or other requirements regarding source, byproduct, or special nuclear materials, which are subject to regulation by the Nuclear Regulatory Commission (NRC) pursuant to the Atomic Energy Act of 1954, as amended, or limitations or other requirements promulgated or imposed pursuant to other Federal law.

b. Pollutant discharge system means equipment or mode of operation designed or intended for the control of the discharge of pollutants, as that last phrase is defined in Section 502(12) of the FWPCA. It does not include equipment or mode of operation designed or intended for the control of source, byproduct or special nuclear materials, which are subject to regulation by NRC pursuant to the Atomic Energy Act of 1954, as amended.

c. Cooling water intake structure location, design, construction and capacity means cooling water intake structure location, design, construction and capacity within the meaning of Section 316(b) of the FWPCA.

3. Authority to Impose Requirements or Limitations Pursuant to National Environmental Policy Act of 1969 (NEPA).

Except as provided in Paragraph 7, if and to the extent that there are applicable limitations or other requirements promulgated or imposed pursuant to the FWPCA, different limitations or requirements will not be imposed by NRC pursuant to NEPA as a condition to any permit or license, provided however, that limitations or other requirements of State law, under authority preserved by Section 510 of the FWPCA which (1) are imposed and set forth in a certification pursuant to Section 401(d) of the FWPCA, or imposed as a condition in the license pursuant to Section 401(a)(2) of the FWPCA, or imposed and set forth as a condition in a permit issued pursuant to Section 402 of the FWPCA, and (2) address matters different from the matters addressed by other limitations or other requirements promulgated or imposed pursuant to the FWPCA, shall be regarded as only minimum limitations or requirements and NRC shall retain any authority under NEPA to impose more stringent limitations or requirements.

4. Alternatives. a. Neither alternative cooling water intake structure location, design, construction, and capacity, nor alternative pollutant discharge systems will be consid-

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[8] The term "commencement of construction" means commencement of construction as defined in 10 CFR 30.4(w), 40.4(n), 50.10(c) or 70.4(s), as applicable.

[9] A facility which has been given section 316(a) alternative effluent limitations is not entitled to the 10-year grace period (or applicable amortization period) provided for in section 306(d) for new sources or in 316(c) for modified sources.

ered by NRC pursuant to NEPA (1) if and to the extent that conditions imposed as a part of the license or permit for the facility of activity pursuant to section 401(d) or section 401(a)(2) of the FWPCA require that a particular alternative be adopted, or (2) if and to the extent that a permit or determination with a condition requiring the adoption of a particular alternative has been issued for the facility or activity pursuant to sections 208(b)(2)(C)(ii) and 303(e)(3)(B), 318, 402 or 404 of the FWPCA.

b. Alternative pollutant discharge systems will not be considered by NRC pursuant to NEPA where effluent limitations have been imposed on the facility or activity under sections 301(c) or 302 of the FWPCA.

c. Neither alternative sites, facilities or activities, nor alternative systems will be considered by NRC pursuant to NEPA if and to the extent that a determination made with respect to the facility or activity under sections 208(b)(2)(C)(ii) and 303(e)(3)(B) of the FWPCA requires as a condition that a particular site, facility or activity, or system be adopted.

d. NRC will not require adoption of an alternative pursuant to NEPA in order to minimize impacts on water quality and biota that are subject to limitations or other requirements promulgated or imposed pursuant to the FWPCA.

5. Cost-Benefit Balances. In evaluting the costs and benefits of a proposed action pursuant to NEPA, NRC will evaluate impacts on water quality and biota notwithstanding that such impacts are subject to limitations or other requirements promulgated or imposed pursuant to the FWPCA.

6. Certifications. A certification issued pursuant to section 21(b) of the FWPCA in effect immediately prior to the date of enactment of the Federal Water Pollution Control Act Amendments of 1972 will be accepted as satisfying the certification requirements of FWPCA section 401(a) with respect to NRC licensing actions after that date subject to section 401(a) if the certification otherwise remains in effect.

7. More Stringent Requirements—Transition Period. The NRC may include limitations or requirements in the license or permit that are more stringent than limitations or requirements promulgated or imposed pursuant to the FWPCA where such limitations or requirements are proposed by the license or permit applicant in a licensing proceeding in which the applicant's licence or permit application at issue and environmental report had been filed prior to enactment of the FWPCA.

8. Effect of section 316(a). Whenever there are limitations or other requirements promulgated or imposed pursuant to the FWPCA with respect to discharges of heated effluent but a request pursuant to section 316(a) has been or may be filed and no limitations pursuant to section 316(a) have yet been imposed, the other limitations or other requirements respecting discharges of heated effluent shall be regarded as expressing only the most stringent limitations or other requirements that might be promulgated or imposed pursuant to the FWPCA in implementing Paragraph 3.

9. Effect on Part 51. To the extent that there is a conflict between any of the provisions of this statement of policy and the provisions of 10 CFR Part 51, the provisions of this statement shall govern.

EXECUTIVE OFFICE OF THE PRESIDENT

COUNCIL ON ENVIRONMENT QUALITY

DECEMBER 17, 1975.

DEAR MESSRS. GOSSICK AND LEGRO: The Council on Environmental Quality is pleased to approve the Second Memorandum of Understanding Regarding Implementation of Certain NRC and EPA Responsibilities. The memorandum provides for the coordination and integration of NEPA review concerning licensing of certain nuclear facilities. Such coordination is a goal which the Council supports and encourages in CEQ's Guidelines.

Recognizing that the agreement is limited to states where EPA is the permit-issuing authority, the Council nevertheless wishes to clarify its interpretation of a sentence in Paragraph 4 of the Memorandum, in order to avoid any misunderstanding of the Council's position. Paragraph 4 provides, inter alia, Where a facility specified in section 2 of this Memorandum is a new source (as defined under section 306 of the FWPCA) and EPA is the permit issuing authority, EPA has a responsibility to comply with section 102(2)(C) of NEPA.

The Council agrees with this statement. However, to the extent this sentence may suggest that NEPA does not apply to EPA if EPA has approved a state permit program pursuant to section 402(b) of the FWPCA, the Council believes that such a suggestion is legally inaccurate. After reviewing the applicable provisions of the FWPCA and NEPA, their legislative histories and relevant case law, CEQ believes that EPA has sufficient authority over permits in states with approved programs to establish responsibility for its own compliance with Section 102(2)(C) of NEPA.

Sincerely,

GARY L. WIDMAN,
General Counsel,

MR. LEE V. GOSSICK,
Executive Director for Operations, Nuclear Regulatory Commission.
MR. STANLEY W. LEGRO,
Assistant Administrator for Enforcement, Environmental Protection Agency.
GARY WIDMAN, *Esquire, General Counsel, Council on Environmental Quality, 722 Jackson Place NW., Washington, D.C.*

DECEMBER 17, 1975.

DEAR MR. WIDMAN: The purpose of this letter is to confirm our mutual understanding of the purpose and intent of paragraph 4.c. of the policy statement set forth as Appendix A to the "Second Memorandum of Understanding Regarding Implementation of Certain NRC and EPA Responsibilities."

The paragraph reflects the constraint on NRC's authority under NEPA imposed by section 511(c)(2) of the FWPCA. The paragraph limits the authority of NRC under NEPA to review and evaluate alternative sites where a State or EPA, acting under section 208(b)(2)(C)(ii) of the FWPCA, establishes and implements in the particular case a regulatory program which includes review and analysis of sites and which is essentially equivalent in its scope and depth of review of environmental factors and alternatives to that required of Federal agencies, such as NRC, under NEPA.

NRC is not relieved of its responsibility to review and evaluate alternative sites under NEPA to the extent that the State or EPA review program under section 208(b)(2)(C)(ii) is narrower in scope of review of environmental factors than required of Federal agencies by NEPA. For example, if environmental impacts of transmission lines or if land use impacts were not considered, NRC would consider such impacts in its review of the application.

Sincerely,

LEE V. GOSSICK,
Executive Director for Operations.

41 FR 3515
Published 1/23/76

FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972

Second Memorandum of Understanding and Policy Statement Regarding Implementation of Certain NRC and EPA Responsibilities

Correction

In FR Doc. 75–35138 appearing on page 60115 in the issue for Wednesday, December 31, 1975, make the following changes:

44 FR 3793
Published 1/18/79

HEALTH EFFECTS RESEARCH

Memorandum of Understanding

Pursuant to Pub. L. 95-601, the Nuclear Regulatory Commission and the Environmental Proection Agency have executed a Memorandum of Understanding delineating respective agency responsibilities in the conduct of epidemiological planning studies to investigate the health risks associated with low-level ionizing radiation. The text of the memorandum is set forth below.

Dated at Washington, D.C., this 12th day of January 1979.

For the Nuclear Regulatory Commission

SAMUEL J. CHILK,
Secretary of the Commission.

NRC/EPA MEMORANDUM OF UNDERSTANDING CONCERNING EPIDEMIOLOGICAL RESEARCH ON THE HEALTH EFFECTS OF LOW-LEVEL IONIZING RADIATION

The Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA) have complementary responsibilities in areas of environmental protection and the control of radiation health hazards. Pursuant to Reorganization Plan No. 3 of 1970, all functions of the former Federal Radiation Council and the authority of the former Atomic Energy Commission (AEC) for setting "generally applicable environmental radiation standards" were transferred to EPA. In addition, under other environmental statutes EPA has authority to establish various specific environmental standards for radiation protection of the public. The Nuclear Regulatory Commission was created by the Energy Reorganization Act of 1974 to continue the regulatory activities of the former AEC for ensuring, among other things, the protection of public health and safety from commercial uses of source, byproduct, and special nuclear materials. The NRC also has responsibility for implementing Federal guidance prepared by EPA and approved by the President which pertains to NRC-licensed activities and responsibility for enforcing "generally applicable environmental radiation standards" issued by EPA.

The Congress of the United States has authorized and directed NRC and EPA to; (1) conduct preliminary planning and design studies for epidemiological research on the health effects of low-level ionizing radiation; (2) submit to Congress by April 1, 1979 an assessment of their capabilities and needs in the area of health effects of ionizing radiation research; and (3) submit a report to Congress by September 30, 1979, which includes a study of options for Federal epidemiological research on the health effects of low-level ionizing radiation, with evaluations of the feasibility of such options.

In order to clarify their respective roles with regard to the conduct of the planning studies, the EPA and NRC agree as follows:

1. In complying with the specific requirement of Subsection 5C of the 1979 NRC Authorization bill (item (2) in the preceding paragraph), NRC and EPA will separately prepare assessments of capabilities and research needs in the area of health effects of low-level ionizing radiation for their respective agencies, and will jointly prepare the report to Congress of the results of those assessments.

2. Preparation of the technical scopes of work for the preliminary planning and design studies, selection of the type of organizations most appropriate to conduct such studies and monitoring of the technical progress and the effort, will be accomplished under the direction of a five-member scientific review group. It will consist of members of the professional staffs of NRC, EPA, and the Department of Health, Education, and Welfare (HEW), two members designated by NRC and two by EPA with each other's agreement, and one member designated by HEW, with NRC's and EPA's agreement. EPA will select, with NRC's agreement, the chairperson of this review group. NRC will select, with EPA's agreement, a program manager (not a member of the review group), to be responsible for the day-to-day management of the feasibility and planning studies and for the submission of technical reports to the review group.

3. Any questions that cannot be resolved by the scientific review group will be resolved by conference between the EPA Assistant Administrator for Air, Noise, and Radiation Programs and the Director of NRC's Office of Standards Development.

4. As appropriate during the conduct of the studies, NRC and EPA shall consult with appropriate scientific organizations and Federal and State agencies.

5. NRC and EPA professional staffs will be utilized for preparation of work scopes, technical and administrative management of studies, and preparation of necessary reports to the Congress. The NRC will make available up to $500,000 for outside assistance for the studies. If a private contractor is to be selected, the Division of Contracts of the Nuclear Regulatory Commission will provide administrative support for issuing requests for proposals, receiving proposals, making contract awards and administering the funds authorized for this purpose.

6. After review of the report by the scientific review group, the report will be sent to the Commission and Administrator of EPA for final approval prior to transmittal to the Congress.

LEE V. GOSSICK,
Executive Director for Operations, U.S. Nuclear Regulatory Commission.

DAVID G. HAWKINS,
Assistant Administrator for Air, Noise and Radiation, U.S. Environmental Protection Agency.

STEPHEN J. GAGE,
Assistant Administrator for Research and Development, U.S. Environmental Protection Agency.

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44 FR 30306
Published 5/24/79

ENVIRONMENTAL PROTECTION AGENCY

[FRL 1231-4]

Federal Responses to Radioactive Contamination From Specified Foreign Nuclear Detonations; Multiagency Memorandum of Understanding Among AF, DOE, EPA, FAA, FDA, NOAA, and NRC

Background

The following agencies have complementary roles in responding to potential radioactive contamination due to specified foreign nuclear detonations during peacetime: Department of the Air Force (DAF); Department of Energy (DOE); Environmental Protection Agency (EPA); Department of Health, Education, and Welfare, Food and Drug Administration (FDA); Department of Commerce, National Oceanic and Atmospheric Administration (NOAA); Nuclear Regulatory Commission (NRC); and Department of Transportation, Federal Aviation Administration (FAA). At present, specified nuclear detonations consist of those atmospheric nuclear detonations which are announced by the DOE.

Two types of response conditions have been identified. The first deals with the movement of contaminated air masses over the United States and possible effects at ground level due to dry fallout or rainout of radioactive debris. The second type of response concerns civil aircraft which may pass through contaminated air masses at various altitudes.

Specific agency responsibilities under two types of response conditions are outlined below as Parts I and II, respectively, in this Memorandum of Understanding.

Purpose and Scope

The purpose of this Memorandum of Understanding is to identify responsibilities and interactions of Federal agencies concerned with monitoring radioactive contamination from foreign nuclear detonations and protecting the public from adverse effects of such contamination.

This Memorandum of Understanding formally outlines agreements regarding continuation of communications, policies and ongoing cooperative efforts to enable each agency to most effectively carry out its responsibilities, to make the most efficient use of Federal resources, and to protect the public health and safety and the environment.

Agency Responsibilities

Under Reorganization Plan No. 3 of 1970, the Environmental Protection Agency (EPA) has the overall Federal responsibility for national ambient radiation monitoring. This includes the collection, analysis, and interpretation of data on environmental radiation levels attributed to radioactive contamination from foreign nuclear detonations during peacetime. EPA is the Federal agency responsible for advising the President and the general public on the potential health significance of such radioactive contamination. In this context, EPA is responsible for coordinating all Federal activities for public health protection and dissemination of information to the public. To effectively carry out these responsibilities, EPA needs the cooperation of several other Federal agencies. Therefore, EPA has taken the lead in developing this Memorandum of Understanding to assure coordination in the collection and dissemination of information regarding potential radioactive contamination from foreign nuclear detonations. The responsibilities of each agency as outlined below are within the scope of authorities already possessed by each agency.

Distribution of Information

Any unclassified information or data collected by any of the agencies who are part of this ageement shall be communicated to any of the other signatories of this agreement upon their request. All public announcements or press releases generated by any of the signatories shall be communicated to the other signatory agencies in as expeditious a manner as possible.

Part I—Responses Regarding Movement of Contaminated Air Masses and Potential Ground Level Effects

A. *Department of the Air Force* (DAF). 1. Provides classified data to NOAA on nuclear debris samples to include location, time, altitude, and concentration of airborne samples. These data will be provided from sorties satisfying DAF or FAA mission requirements. If NOAA has additional data requirements, DAF will be reimbursed for resources expended. Reimbursement procedures will be established in a separate DAF–NOAA memorandum. DOE will be provided a copy of the data.

2. Data will be provided as soon as possible after every sampling mission.

B. *Department of Energy* (DOE). 1. Gathers information on the nature of the nuclear detonation, i.e., location, time, yield, and height of detonation and reports this information to NOAA.

2. Makes public announcements on the occurrence of specified nuclear detonations and provides this information directly to the EPA, FDA, and NRC prior to such public release.

3. Collects data from radiation measurements made at DOE facilities, including national laboratories, that are pertinent to fallout and reports these data to EPA and to other agencies upon request.

4. Will provide to NOAA any advisories released by its Atmospheric Release Advisory Capability Center at Livermore, Calif., including forecasts of radiation levels, and estimates of size and movement of radioactive clouds on a 12-hourly basis, with more frequent updates if appropriate.

C. *Environmental Protection Agency* (EPA). 1. Notifies State agencies with responsibility for environmental radiation monitoring of the possibility of radioactive fallout occurring. Keeps affected State agencies informed on the regional and national radiological picture as information develops.

2. Provides predictions from NOAA on pathways of contaminated air mass movements over the United States and areas of possible rainout of radioactive materials to Federal agencies and the general public.

3. Recommends radiation surveillance or protective actions to appropriate State agencies.

4. Activates the standby portions of the Environmental Radiation Ambient Monitoring System (ERAMS) and increases the frequency of sample collections in those parts of ERAMS which operate routinely in order to assess the national radiological fallout situation. The collection of pasteurized milk samples will be coordinated through the Food and Drug Administration, HEW.

5. Collects additional monitoring program information from State agencies, DOE, and NRC as necessary to further assess the national radiological situation.

6. Prepares regional and national radiological assessments including interpretations of data relative to health impacts and issues this information as news releases. When news releases involve information relative to the direct concern of/or activities regulated by a signator of this agreement, such releases would be cleared with the interested agency prior to issuance, e.g., releases involving information on foods and animal feeds would be cleared with FDA. All signatory agencies would receive copies of press releases. The public will be advised of recommended protective actions in accordance with Federal radiation guidance and other appropriate radiation protection criteria as necessary.

7. Keeps other Federal agencies informed on regional and national radiological situations as appropriate to their mission. This includes routine information updatings to NOAA, DOE, FDA, and NRC, and information to others upon request.

D. *Food and Drug Administration* (FDA). The Food and Drug Administration (FDA) of the Department of Health, Education, and Welfare is responsible for the enforcement of a number of public health laws including the Food, Drug, and Cosmetic Act (21 U.S.C. 301 et seq.). FDA's activities under the FD&C Act are directed toward the protection of public health of the Nation by assuring that foods, exclusive of water from domestic consumption, are safe and wholesome. This responsibility is accomplished in part through comprehensive scientific and medical evaluation of known and possible food and feed contaminants such as radioactive contamination. In exercising this responsibility with regard to radioactive food and feed contamination, FDA determines the public health significance of such contamination, and advises the States and public at large accordingly. Specifically, FDA:

1. Receives information from NOAA regarding the probable location of fallout contamination, and consults with EPA concerning radiation surveillance and protective actions.

2. At the request of EPA, FDA through its regional representatives will alert State and local agencies to increase or decrease the frequency of pasteurized milk sample collection, according to FDA's ongoing cooperative role in milk sampling for EPA's Environmental Radiation Ambient Monitoring System.

3. Collects and analyzes food and animal feed samples for radionuclides from fallout as deemed necessary.

4. Assists EPA in analysis of milk samples associated with a fallout incident when requested.

5. In consultation with EPA, provides guidance to State and local governments in regard to appropriate responses necessary for evaluating and preventing hazardous radioactive contamination of foods and animal feeds and the control and use of such products should they become contaminated.

6. Cooperates with EPA in the exchange of all scientific and analytical data associated with a fallout incident.

7. Participates in the review and clearance of EPA press releases relative to food or animal feed contamination by radioactive fallout.

E. *National Oceanic and Atmospheric Administration* (NOAA). 1. The official NOAA forecast will be the basis for all public announcements by other agencies on the movement of airborne radioactivity and areas of potential rainout of nuclear debris. These forecasts will be identified as NOAA forecasts. In preparing these forecasts, NOAA will take into account all data and forecasts provided by DOE, DAF, and other sources. NOAA will provide the official forecast to EPA and DOE routinely, and to other agencies upon request.

2. NOAA will provide information on predicted location and radioactivity concentration of contaminated air masses to the other agencies upon request.

3. Transmits the official EPA public announcements to its National Weather Service Forecast Offices over the NOAA Radar Report and Warning Coordination Teletypewriter Network (RAWARC) for dissemination by local forecast offices in answering local public or news media inquiries.

F. *Nuclear Regulatory Commission* (NRC). 1. Notifies appropriate NRC licensees of possibility of radioactive fallout as it deems necessary.

2. Reports to EPA any data obtained from NRC licensees relating to radioactive fallout. Upon special request by a signatory of this agreement, NRC will query appropriate licensees to obtain information which these licensees may possess regarding radioactive fallout and may request the voluntary assistance of licensees in conducting special sampling and analysis, as appropriate. NRC will not, however, routinely request licensee data or assistance.

3. Participate in the review and clearance of EPA press releases relative to the involvement of NRC licensees.

Part II.—Responses Regarding Civil Aircraft Flights Through Contaminated Air Masses

The Federal Aviation Administration (FAA) is responsible for the safety of air commerce. In the event of the detonation of a nuclear device producing airborne radioactivity which presents a potential hazard to air commerce, the FAA will assemble an in-house task force to implement its standing operating procedures. Information on the activities of this task force will be disseminated to designated representatives of Department of the Air Force (DAF), Environmental Protection Agency (EPA), Department of Energy (DOE) and National Oceanic and Atmospheric Administration (NOAA). This task force will serve as the Federal focus of activities related to ensuring the protection of air commerce from hazards associated with airborne radioactivity. The responsibilities of each of the agencies in support of the activities of this task force are outlined below:

A. *Department of the Air Force.* 1. Will provide sampling aircraft for detection and measurement of debris concentrations at altitudes of civil aircraft flight (FL250–600), on a noninterference basis with normal DAF missions as requested by FAA. If feasible, FAA requirements will be accomplished concurrently with Air Force requirements; if not, DAF is to be reimbursed for resources expended to meet FAA sampling requirements. Reimbursement procedures will be established in a separate memorandum.

2. Will provide data to FAA on atmospheric concentrations of nuclear debris in picocuries per cubic meter. Data will be provided every 12 hours and will include position of debris, and 12/24 hour forecast location. Copies will be provided to DOE and NOAA.

B. *Department of Energy.* 1. Will provide to FAA, through its Atmospheric Release Advisory Capability Center at Livermore, California, forecasts of radiation levels at flight altitudes, and estimates of size and movement of radioactive clouds on a 12-hour basis, with more frequent updates if appropriate; copies of such data will also be simultaneously forwarded to NOAA.

2. Will provide support to FAA in the form of radiological monitoring of aircraft at selected airports and in flight, as is compatible with DOE resources.

C. *Environmental Protection Agency.* 1. Will provide consultation and guidance to FAA on appropriate limits of exposure for aircraft passengers.

2. Will provide guidance to FAA on appropriate limits of surface contamination in situations not otherwise covered in existing FAA or Department of Transportation regulations.

3. Will work with FAA in its development and updating of appropriate standing operating procedures for radiological monitoring, radiation exposure control, record keeping, and decontamination.

4. Will provide interpretation of radiological monitoring data and other radiological health-related material, as required.

5. Prepares regional and national radiological assessments including interpretations of data relative to health impacts and issues this information as news releases. When news releases involve information on civil aircraft they will have their specific language approved by FAA.

D. *Federal Aviation Administration.* 1. Will ensure that the best possible information is made expeditiously available to users, including appropriate air traffic control centers, airman's information centers and airlines, with respect to airspace which should be avoided due to potential or actual radioactive contamination.

2. Will ensure that appropriate radiological monitoring and record keeping procedures are instituted for air commerce, in accordance with the most recent FAA operating plans.

3. Will ensure the safety of air commerce by issuing appropriate regulations to the air transport industry.

4. Will provide the Department of the Air Force, Deputy Chief of Staff, Plans and Operations, Directorate of Operations and Readiness, Reconnaissance Division (AF/XOORZ) location, altitude, and required time of debris detection and measurement, and will advise the DAF when requirements are terminated.

5. Will act as principal Federal representative and focal point for all public and news media inquiries relative to aviation as it is or might be affected by radioactive debris.

6. Will establish and maintain through its communications center, proper coordination of Federal activities with regard to aviation with designated representatives of the agencies who have entered into Part II of this agreement.

E. *National Oceanic and Atmospheric Administration.* 1. The official NOAA forecast will be the basis for all public announcements by other agencies on the movement of airborne radioactivity and areas of potential rainout of nuclear debris. These forecasts will be identified as NOAA forecasts. In preparing these forecasts, NOAA will take into account all data and forecasts provided by DOE, DAF, and other sources. NOAA will provide the official forecasts to EPA, FAA and DOE routinely, and to other agencies upon request.

2. NOAA will provide information to FAA on predicted location and radioactivity concentration of contaminated air masses.

Public Information

DAF, DOE, EPA, FAA, NOAA, and NRC recognize the importance of providing timely and accurate information to the public regarding airborne radioactive contamination which may affect civil aircraft. Each agency further recognizes the potential disruption of national and international air commerce which could result from dissemination of inaccurate or misleading information on this subject. It is, therefore, agreed that during the time of concern over possible hazards to air commerce from airborne radioactive contamination, all inquiries from the public, news media, or industry regarding aviation as it is or might be affected by such contamination will be referred to the FAA, except that copies of official statements issued by FAA, or statements whose specific language has been approved by FAA, will be provided to EPA, and other agencies according to their needs, and may be disseminated by them in response to public and news media inquiries. FAA will also respond to general inquiries regarding DAF participation using information obtained in advance from the Secretary of the Air Force, Office of Information; for this purpose, direct interdepartmental public affairs contact is authorized. News media inquiries concerning DAF participation which cannot be answered within the context of predeveloped material will be referred to the Directorate for Defense Information, Office of the Assistant Secretary of Defense (Public Affairs).

Supplementary Agreements

This Memorandum of Understanding may be further implemented by supplementary agreements of the following types:

A. Authorized representatives of the signatory agencies may amplify or otherwise modify the policy or provisions in the memorandum or any of its supplements, provided that any material modification of the provisions in this memorandum or any of its supplements shall be subject to the approval of the authorized signators of this memorandum from each agency.

B. Supplementary agreements which affect fewer than the total number of agencies, and which are otherwise consistent with the purposes and provisions of the overall agreement, may be executed by only the parties concerned provided that advance copies of such supplementary agreements are made available to all signing agencies and the decision of other authorized signatories that they are affected and should be included in the supplementary agreement, shall be accepted by all.

Duration of Agreement

This Memorandum of Understanding shall take effect when accepted by all parties and shall endure for five years or until all but one of the parties have individually terminated it, whichever occurs first. The effective date of this agreement is April 15, 1979. This agreement may be renewed by review and approval of the parties after five years from acceptance, or earlier if terminated in accordance with the terms of the agreement.

Participation in this agreement may be terminated by any of the parties following 30 days advance written notice by that party to all of the other parties.

Supplementary agreements may be temporary and terminate on a certain date or upon completion, as provided.

The termination of any party's participation in this Memorandum of Understanding or any supplementary agreement does not render such agreements void to the other parties.

Implementing Agency Components

The following is a list of agency components with responsibilities for implementing the provisions of this Memorandum of Understanding. Each organizational component will designate specific personnel to be contacted on matters related to implementing this MOU. EPA shall provide each implementing component with an up-to-date list of these personnel semiannually or more frequently if EPA is notified of changes in personnel.

Department of the Air Force, Deputy Chief of Staff, Operations, Plans and Readiness, Directorate of operations and Readiness, Reconnaissance Division.

Department of Energy, Office of Assistant Secretary for Environment, Division of Operational and Environmental Safety.

Environmental Protection Agency, Office of Radiation Programs, Environmental Analysis Division.

Department of Health, Education, and Welfare, Food and Drug Administration, FDA Recall and Emergency Staff

Department of Commerce, National Oceanic and Atmospheric Administration, Air Resources Laboratory.

Nuclear Regulatory Commission, Office of Inspection and Enforcement.

Department of Transportation, Federal Aviation Administration, Office of Environmental Quality.

Agreement Authority

This agreement is entered into under various provisions for interagency cooperation appearing in the legislative authorities of the signatory agencies.

For the Department of the Air Force.

Brig. Gen. Walter B. Ratliff,

Acting Director of Operations and Readiness.

For the Department of Energy.

Ruth C. Clusen,

Assistant Secretary for Environment.

For the Environmental Protection Agency.

Paul Stolpman,

Acting Assistant Administrator for Air, Noise, and Radiation.

For the Federal Aviation Administration.

Charles R. Foster,

Associate Administrator for Aviation Standards.

For the Food and Drug Adminstration.

Joseph P. Hile,

Associate Commissioner for Regulatory Affairs.

For the National Oceanic and Atmospheric Administration.

George S. Benton,

Associate Administrator.

For the Nuclear Regulatory Commission.

Lee V. Gossick,

Executive Director for Operations.

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44 FR 38690

Published 7/2/79

DEPARTMENT OF TRANSPORTATION

Nuclear Regulatory Commission

Transportation of Radioactive Materials; Memorandum of Understanding

The roles of the Department of Transportation and the Nuclear Regulatory Commission in the regulation of the transportation of radioactive materials were described in a memorandum of understanding signed on June 8, 1979. The present memorandum supersedes a 1973 agreement between the Atomic Energy Commission and the Department of Transportation. A text of the memorandum is set forth below.

Radioactive Materials

Abstract. This agreement delineates the respective responsibilities of the Department of Transportation (DOT) and the Nuclear Regulatory Commission (NRC) for the regulation of safety in transportation of radioactive materials It supersedes the existing agreement executed on March 22, 1973, between the DOT and the Atomic Energy Commission. Generally, the DOT is responsible for regulating safety in transportation of all hazardous materials, including radioactive materials, and the NRC is responsible for regulating safety in receipt, possession, use, and transfer of byproducts, source, and special nuclear materials. The NRC reviews and approves or denies approval of package designs for fissile materials and for other radioactive materials (other than low specific activity materials) in quantities exceeding Type A limits, as defined in 10 CFR Part 71.

Agreement between the DOT and the NRC. The Department of Transportation (DOT), under the Transportation of Explosives Act (18 U.S.C. 831–835), the Dangerous Cargo Act (R. S. 4472, as amended, 46 U.S.C. 170), Title VI and 902(h) of the Federal Aviation Act of 1958 (49 U.S.C. 1421–1430 and 1472(h)), the Department of Transportation Act (49 U.S.C. 1655), and the Hazardous Materials Transportation Act (49 U.S.C. 1801–1812), is required to regulate safety in the transportation of hazardous materials, including radioactive materials.

The Nuclear Regulatory Commission (NRC), under the Atomic Energy Act of 1954, as amended (42 U.S.C. Chapter 23), and Section 201 of the Energy Reorganization Act of 1974, as amended (42 U.S.C. 5841), is authorized to license and regulate the receipt, possession, use, and transfer of "by product material," "source material," and "special nuclear material" (as defined in 42 U.S.C. 2014). The NRC authority to license air shipment of plutonium is further governed by Pub. L. 94–79.

For the purpose of developing, establishing, and implementing consistent and comprehensive regulations and requirements for the safe transportation of radioactive materials, and avoiding duplication of effort, the DOT and the NRC agree, subject to their respective statutory authorities, as follows. Terms used in this agreement are defined in 49 CFR Parts 100–199 and 10 CFR part 71.

I. Development of Safety Standards

A. The DOT (in consultation with the NRC) will develop safety standards for the classification of radioactive materials; for the design specifications and performance requirements of packages for quantities of radioactive materials (other than fissile materials) not exceeding Type A limits and for low specific activity (LSA) radioactive materials; for the external radiation fields, labeling, and marking of all radioactive materials packages and vehicles; for the mechanical conditions, construction requirements, and tie-down requirements of carrier equipment; for the qualifications of carrier personnel; for the procedures for loading, unloading, handling, and storage in transit; for any special transport controls (excluding safeguards) necessary for radiation safety during carriage; and for all other safety requirements except those specified in the next paragraph.

B. The NRC (in consultation with the DOT) will develop safety standards for design and performance of packages for fissile materials and for quantities of other radioactive materials (other than LSA materials) exceeding Type A limits in the following areas:

1. Structural materials of fabrication;
2. Closure devices;
3. Structural integrity;
4. Criticality control;
5. Containment of radioactive material;
6. Shielding;
7. Generation of internal pressure;
8. Internal contamination of packages;
9. Protection against internal overheating; and
10. Quality assurance of packaging design, fabrication, testing, maintenance, and use.

II. Adoption of Safety Standards and Regulations

A. The DOT will adopt regulations imposing on shippers and carriers subject to its jurisdiction those standards developed by the DOT and the NRC pursuant to Section I of this Memorandum of Understanding and any additional requirements necessary to protect the public health and safety. The DOT will require NRC approval of designs of packages for shipment of fissile materials and other radioactive materials in quantities exceeding Type A limits (except LSA materials) by all persons subject to the jurisdiction of the DOT. The DOT will issue complete and comprehensive Federal regulations for the packaging and transportation of all radioactive materials as a part of its overall body of Federal regulations (49 CFR Parts 100–199) for the packaging and transportation of all hazardous materials.

B. The NRC will adopt packaging standards for fissile materials and for quantities of other radioactive materials (other than LSA materials) exceeding Type A limits and will adopt regulations imposing on its licensees administrative, procedural, and technical requirements necessary to protect the public health and safety and to assure the common defense and security.

C. The NRC will adopt procedures, standards, and criteria for approval of package designs and for approval of special transport controls proposed by the applicant for a given package design. The NRC will require its licensees to comply with the DOT regulations when those persons are not otherwise subject to the DOT regulations.

III. Package Review

A. The DOT will submit to the NRC for review the following package designs:

1. Specification containers. Approval by the NRC of package designs for fissile mateials and for radioactive materials (other than LSA materials) in quantities exceeding Type A limits will be obtained before publication of such designs in the DOT regulations.

2. Packages with foreign certification. Approval by the NRC will be obtained before revalidation of the foreign certificates required in the DOT regulations for packages shipped between origins and destinations within the United States, except for import and export shipments. Approval by the NRC is not required if a package is used solely for export or import or if a package is authorized by the DOT regulations solely for transportation through or over the United States between origins and destinations outside the United States. the DOT has the responsibility for exercising discretion as to whether it requests NRC review of such packages.

3. Any package for which NRC evaluation is warranted in DOT opinion.

B. The NRC will evaluate package designs for fissile materials and for other radioactive materials (other than LSA materials) in quantities exceeding Type A limits and will, if satisfactory, issue approvals therefor (viz., a license, Certificate of Comliance, or other package approval) directly to the person requesting the approval.

IV. Inspection and Enforcement

A. Each agency will conduct an inspection and enforcement program within its jurisdiction to assure compliance with its requirements. The NRC will assist the DOT, as appropriate, in inspecting shippers of fissile materials and of other radioactive materials in quantities exceeding Type A limits.

B. The DOT and the NRC will consult each other on the results of their respective inspections in the areas where the results are related to the other agency's requirements, and each will take enforcement action as it deems appropriate within the limits of its authority.

V. Accidents and Incidents

A. The DOT will require of all carriers subject to its jurisdiction the notification and reporting to the DOT of accidents, incidents, and instances of actual or suspected leakage involving radioactive material packages if such an event occurs in transit and the DOT will promptly notify the NRC of such events.

B. The NRC will require of its licensees the notification and reporting to the NRC of accidents, incidents, and instances of actual or suspected leakage involving radioactive material packages if such an event occurs prior to delivery to a carrier for transport or after delivery to a receiver. The NRC will encourage the Agreement States [1] and the DOT will encourage the non-Agreement States to impose incident reporting requirements on shippers and receivers subject to the States' jurisdiction.

C. In all accidents, incidents, and instances of actual or suspected leakage involving packages of radioactive material regulated by the NRC, the NRC will normally be the lead agency for investigating the occurrence and preparing the report of the investigation. The DOT may either participate, as appropriate, in the investigation with the NRC as the lead agency or conduct a separate investigation. Subsequent to each investigation involving radioactive material regulated by the NRC, the NRC and the DOT will jointly define he scope of the enforcement actions to be taken by each agency to assure that shippers and carriers are subject to concurrent and equivalent enforcement actions but not unduly subject to duplicate enforcement actions.

D. This section V does not affect the authority of the National Transportation Safety Board, which is independent of the DOT and the NRC, to receive accident reports and to investigate transportation accidents.

VI. National Competent Authority

A. The DOT will be the national competent authority with respect to the administrative requirements set forth in the regulations for the Safe Transport of Radioactive Materials of the International Atomic Energy Agency (IAEA). In issuing certificates of competent authority for the United States under those regulations, the DOT will require for certain packages other than DOT specification containers an NRC approval in accordance with Section III.A of this Memorandum of Understanding. The NRC will provide to the national competent authority (DOT) technical support and advice pertaining to the transportation of radioactive materials.

B. The DOT will act as the representative of the United States to the IAEA and other international groups on matters pertaining to the administrative and safety regulatory aspects of transportation of radioactive materials. The NRC will provide technical support and advice to the DOT in this capacity.

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[1] States which have entered into an Agreement with the Atomic Energy Commission or the NRC pursuant to Section 274 of the Atomic Energy Act of 1954, as amended, under which the NRC has relinquished to such States the majority of its regulatory authority over source, byproduct and special nuclear material in quantities not sufficient to form a critical mass.

VII. Exchange of Information

A. Prior to issuance of any regulations by either the DOT or the NRC involving transportation of radioactive materials, each agency will advise and consult with the other to avoid possible conflict in regulations and to assure that: (1) the regulations will afford adequate protection of the health and safety of the public; (2) the effect of these regulations will not be inimical to the common defense and security of the United States; and (3) the regulations are in the public interest.

B. The DOT and the NRC will exchange information, consult and assist each other within the areas of their special competence in the development and enforcement of regulations and procedures. Each agency will make available to the other, subject to security requirements and statutory provisions affecting the release of information, summaries of inspection records, investigations of serious accidents, and other matters relating to safety in the transportation of radioactive materials.

VIII. Working Arrangements

The NRC and the DOT will designate appropriate staff representatives and will establish joint working arrangements from time to time for the purpose of administering this Memorandum of Understanding.

IX. Effect

A. Nothing herein is intended to affect the statutory exemption of shipments of radioactive materials made by or under the direction or supervision of the Department of Energy or the Department of Defense in accordance with the provisions of 18 U.S.C. 832(c).

B. This agreement shall take effect upon the signing by authorized representatives of the respective agencies, and shall supersede in its entirety the March 22, 1973, Memorandum of Understanding between the DOT and the Atomic Energy Commission.

C. Nothing in this Memdorandum of Understanding is intended to restrict the statutory authority of either the DOT or the NRC.

Done at Washington, D.C., in triplicate, this 8th day of June 1979.

For the United States Department of Transportation.

James D. Palmer,

Administrator, Research and Special Programs Administration, Department of Transportation.

For the United States Nuclear Regulatory Commission.

Joseph M. Hendrie,

Chairman, Nuclear Regulatory Commission.

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44 FR 49529
Published 8/23/79

Memorandum of Understanding Between the Nebraska Department of Environmental Control and the United States Nuclear Regulatory Commission

The Commission, in mid-January 1976 adopted the policy of entering into agreement with States that have been delegated responsibility by EPA for issuance of National Pollutant Discharge Elimination System (NPDES) permits under section 402 of the Federal Water Pollution Control Act.

Although considerable latitude is provided, generally such agreements embody the principles of the Second Nuclear Regulatory Commission-Environmental Protection Agency Memorandum of Understanding (NRC/EPA) (FR Vol. 40, No. 251, p 60115 ff, December 31, 1979) for cooperation in the licensing of nuclear power plants.

To date, six such agreements have been consummated. Three, those with Virginia, New York, and South Carolina were published in the **Federal Register**, Vol. 43 No. 88, p 19485 ff, on May 5, 1978. The fourth, with the State of Washington, was published in the **Federal Register**, Vol. 43, No. 188, p 43774 ff, on September 27, 1978. The fifth, with the State of Indiana, was published in the **Federal Register**, Vol. 43, No. 251, p 61053 ff, on December 29, 1978. The sixth is entitled "Memorandum of Understanding between the Nebraska Department of Environmental Control and the U.S. Nuclear Regulatory Commission pursuant to the Federal Water Pollution Control Act, as amended (FWPCA)." It calls for the State and the NRC to cooperate and share information as each moves forward in its decisionmaking process for a nuclear facility. The new procedures are intended to ensure that water quality and biota impacts are considered early and will be less likely to result in significant changes in plant design, or costs and benefits of operation, following the NRC staff's environmental review. The Memorandum became effective on August 2, 1979; the text is published below.

In order to avoid confusion in terminology between general and water quality agreements with States and those agreements under section 274b of the Atomic Energy Act wherein the State assumes certain materials licensing responsibility, and new general or water quality instrument will hereafter be called a Memorandum of Understanding as is the NRC/EPA instrument.

FOR FURTHER INFORMATION CONTACT: Frank W. Young, Office of State Programs, telephone 301–492–7794, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Dated at Bethesda, Maryland this 16th day of August, 1979.

For the Nuclear Regulatory Commission.

Robert T. Jaske,

Acting Director, Office of State Programs.

Memorandum of Understanding Between the Nebraska Department of Environmental Control and the U.S. Nuclear Regulatory Commission Pursuant to the Federal Water Pollution Control Act as Amended (FWPCA)

The State of Nebraska (hereafter the "State") is a permit issuing State under Section 402 of the Federal Water Pollution Control Act, as amended (FWPCA). As such the State is not directly affected by the "Second Memorandum of Understanding Regarding Implementation of Certain Nuclear Regulatory Commission and Environmental Protection Agency Responsibilities Under the Federal Water Pollution Control Act as amended (FWPCA) and the National Environmental Policy Act of 1969." However, the State agrees with the principles embodied in that Memorandum and wishes to cooperate with the U.S. Nuclear Regulatory Commission (hereafter "NRC") in implementing those principles.

Specifically, these cooperative efforts will extend to requirements for the control and consideration of impacts on water quality and biota associated with the licensing and regulation including early site approval [1] of the following facilities within the State:

a. nuclear power and test facilities,
b. nuclear fuel reprocessing facilities,
c. uranium isotope enrichment facilities,
d. nuclear fuel fabrication plants, and
e. nuclear waste treatment, storage and disposal facilities.

1. Without relinquishing existing statutory authority, the State and NRC will cooperate to identify and consolidate the environmental information needed for early evaluation related to impacts on water quality and biota under the FWPCA. The objective should be that the scope, form and timeliness of the information to be submitted by the applicant will satisfy the requirements of both the State and NRC, recognizing the final responsibility of the State for the same under FWPCA. This information will include that needed for issuance of State water quality certifications pursuant to Section 401 and NPDES permits pursuant to Section 402. It shall also include, where applicable, Section 316(b) considerations regarding best available technology as applied to cooling water intake structures and Section 316(a) determinations regarding the granting of alternative effluent limitations for the thermal component of discharges, as well as information needed to evaluate the environmental impact of the facility based on compliance with FWPCA requirements.

2. The State and NRC will meet, as appropriate, at an early time prior to and/or during the environmental review process for each facility or plant subject to this

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[1] See 10 CFR Part 2, Subpart F and Appendix A, Paragraph I(c).

Memorandum to discuss potential impacts on water quality and biota.

3. (a) The State will exercise its best efforts to evaluate the levels of discharges and impacts on water quality and biota pursuant to Section 402 and 316 (a), as apprpriate, and complete cooling water intake structure evaluations pursuant to Section 316(b) as far as possible in advance of the planned date of issuance by NRC of the final environmental impact statement for the construction permit for any nuclear power reactor. The State will also exercise its best efforts to make such evaluations as far as possible in advance of the planned date of issuance of the final environmental impact statement for any other plant or facility subject to this Agreement or issuance of early site approvals associated with nuclear power and other facilities.

(b) Where possible, the State's comments on NRC's draft environmental impact statement for each such facility will reflect such evaluations. The State will undertake the issue a complete Section 402 permit as soon as possible prior to the planned date of authorization by NRC of any commencement of construction [2] or issuance by NRC of any license, or early site approval, whichever is applicable.

(c) Such permits will contain appropriate terms and conditions for all discharges of pollutants expected during the life of the permit and, to the extent possible, terms and conditions with regard to cooling water intake structures and Section 316(a) determinations concerning thermal discharges. Additional permit terms and conditions for discharges not contemplated during the life of the permit (such as certain chemical and other releases not expected until operation startup) may be derived from applicable State water quality standards and applicable new source performance standards contained in 40 CFR, Chapter 1, Subchapter N. Permits may be reissued, or modified as appropriate, and any reissued or modified permit, to be effective at the commencement of actual discharge as provided above, may require additional limitations and controls based on data gathered during the initial permit or may require additional Section 316 (a) and (b) studies for the purpose of confirming conclusions reached from previous predictive studies. Applications for permit reissuance as provided above will be evaluated by the State, so far as allowed by FWPCA, in light of the policy to assure to the maximum extent possible that subsequent considerations regarding impacts on water quality and biota will not result in the need for significant changes in plant design or in costs and benefits of the operation of the facility subsequent to the completion of NRC's environmental review.

4. The State will work closely with NRC to assure, so far as possible, that water quality certifications pursuant to Section 401 for the facilities subject to this Memorandum that require such certification are issued in advance of the planned date of issuance of NRC staff's final environmental impact statement for the facility.

5. The State and NRC will maintain close contact on water quality and related matters during the entire environmental review, including:

(a) Open interagency communications, and mutual cooperation on all relevant water quality matters;

(b) A status meeting, where appropriate, after completion of the environmental review or subsequent thereto, on any significant new considerations that develop; e.g., a major change in plant design or the identification of significant considerations regarding impacts on water quality or biota that were not previously evaluated as may result from a major change in plant design.

6. The State and NRC will consider the feasibility of holding combined or concurrent hearings on the State's Section 402 permits and NRC's construction permits, or other actions, on a case-by-case basis. If there are areas involving impact on water quality or biota where there are significant differences of opinion between the State and NRC, every reasonable attempt will be made to identify and resolve these differences prior to the planned date of issuance of NRC's final environmental statement. In the event that agreement cannot be reached, the NRC shall assume responsibility for insuring that the differences are addressed in the environmental statement.

7. Nothing in this Memorandum is intended to restrict or extend the statutory authority of either NRC or the State or to affect or vary the terms of the present agreement between the State and NRC under Section 274b of the Atomic Energy Act of 1954, as amended.

8. The principal NRC contact under this Memorandum shall be the Assistant Director for Environmental Projects. The principal State contact under this Memorandum shall be the Director of the Department of Environmental Control.

9. This Memorandum of Understanding shall take effect immediately upon signing by the State and the Nuclear Regulatory Commission, and may be terminated upon 30 days written notice by either party.

For the United States Nuclear Regulatory Commission:

Lee V. Gossick,

Executive Director for Operations.

Dated at Washington, D.C., this 2nd day of August, 1979.

For the Nebraska Department of Environmental Control:

Dan T. Drain, *Director.*

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[2] The term "commencement of construction" is as defined in 10 CFR 50.10(c), 30.4(w), 40.4(n) and 70.4(s) as applicable.

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44 FR 75535
Published 12/20/79

Federal Bureau of Investigation and Nuclear Regulatory Commission Memorandum of Understanding for Cooperation Regarding Threat, Theft, or Sabotage in U.S. Nuclear Industry

December 13, 1979.

The attached memorandum, subject as above, provides a basis for contingency response planning, coordination, and cooperation between the Federal Bureau of Investigation (FBI) and the Nuclear Regulatory Commission (NRC) in order to deal effectively with threats, and with acts associated with theft or sabotage attempts against NRC licensed nuclear materials, facilities (nuclear power plants and other types of nuclear plants in the nuclear fuel cycle) and activities.

E. Morris Howard,

Director, Division of Safeguards Inspection, Office of Inspection and Enforcement.

Federal Bureau of Investigation and Nuclear Regulatory Commission Memorandum of Understanding for Cooperation Regarding Threat, Theft, or Sabotage in U.S. Nuclear Industry

1.0 Purpose.

The purpose of this memorandum is to provide a clear basis for contingency response planning, coordination, and cooperation between the Federal Bureau of Investigation (FBI) and the Nuclear Regulatory Commission (NRC) in order to deal effectively with threats, and with acts associated with theft or sabotage attempts against NRC licensed nuclear materials, facilities [1] and activities.

Having closely related statutory responsibilities with regard to nuclear materials, facilities, and activities in U.S. nuclear industry, the FBI and the NRC cooperate fully in carrying out their respective responsibilities in the interest of achieving:

(1) Effective communication and exchange of relevant information, and

(2) Timely, reliable, and effective response actions.

2.0 Applicable authority.

2.1 *Federal Bureau of Investigation* The FBI's authority relative to NRC licensed nuclear facilities, activities, and materials stems from responsibilities assigned the FBI in the following areas (inter alia):

(1) Pub. L. 83–703, Atomic Energy Act of 1954 as amended, Title 42, U.S. Code.

(2) Title 18 and Title 50, U.S. Code, as may be applicable such as extortion, sabotage, or theft of government property.

2.2 *Nuclear Regulatory Commission.* The NRC's regulatory authority stems from responsibilities assigned the NRC in the following areas (inter alia):

(1) Pub. L. 93–438, Energy Reorganization Act of 1974, Title 42, U.S. Code.

(2) Pub. L. 83–703, Atomic Energy Act of 1954, as amended, Title 42, U.S. Code.

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[1] The term, facility, used generally throughout this document, includes nuclear power plants and other types of nuclear plants in the nuclear fuel cycle.

MEMORANDA OF UNDERSTANDING

3.0 Incidents and threats of mutual concern.

In accordance with their respective statutory responsibilities, the FBI and the NRC agree to coordinate planning and responses dealing with but not limited to threats, material thefts and diversions, incursions or infiltrations, extortions, conspiracy, and sabotage relating to all facilities, activities, and materials licensed under the Atomic Energy Act of 1954, as amended.

Both agencies agree to cooperate in formation exchange relating to the foregoing topics for purposes of threat evaluation.

4.0 Agency Roles and Relationships.

4.1 *FBI's Role With Respect to Incidents at Licensed Nuclear Facilities and Activities.* Criminal acts in the categories stipulated in paragraph 3.0, when committed against NRC licensed nuclear facilities and activities, may be in violation of the Atomic Energy Act of 1954 or the regulations of the NRC, as well as other Federal statutes of concern to the FBI. In such cases, the general role of the FBI would be one of actively investigating the incident and coordinating other necessary action by state and local law enforcement agencies in order to apprehend the perpetrators, recover any stolen or diverted nuclear material, and support Federal prosecutions as appropriate. FBI special weapons and tactics teams and hostage negotiation experts also would be available for contingency response against barricaded adversaries if needed.

Because of relative location and travel time, the FBI's presence at the scene of an incident may not be prompt enough to provide the immediate law enforcement action required. Thus, local law enforcement agencies must be relied on in general for prompt response needs. The FBI, upon arrival at the scene, would assume control and coordination of the law enforcement operations, except where violation of Federal statutes is not involved.

The FBI effects liaison with the NRC and local law enforcement agencies as necessary to effectively plan for and carry out the above role, and to accomplish information exchange concerning threats and potential adversaries of concern.

4.2 *NRC's Role With Respect to Incidents at Licensed Nuclear Facilities and Activities.* In its regulation of US nuclear industry, the NRC, among other things, requires certain licensees to provide and maintain a physical protection system, inclusive of contingency response plans and coordination with local law enforcement agencies, in order to protect their nuclear facilities, activities, and materials against attempted criminal acts. If such an attempt occurs, the immediate contingency role of the NRC would be one of gathering and assessing information to determine the situation, appraising and cooperating with the FBI in order to expedite and assist FBI response, and arranging for other needed and feasible contingency response assistance that is requested through NRC channels.

After the immediate contingency aspects of the situation have passed, NRC would continue to cooperate with the FBI on a noncontingency, prolonged basis as required to assist any ensuing FBI investigations relative to the incident.

The NRC effects liaison with the FBI as necessary to effectively plan for and carry out the above role, and to accomplish information exchange and assessment concerning threats and potential adversaries of concern.

4.3 *Concept for Contingency Response Coordination and Cooperation.* Criminal acts against licensed nuclear facilities, activities, and materials are reported to the pertinent NRC Regional Office by the licensee, along with information about the local situation and about the law enforcement or other agencies notified or responding. The NRC Regional Office notifies the NRC Headquarters, assures that the pertinent FBI Field Office (or resident agent) having jurisdiction is informed without delay about overt acts requiring prompt law enforcement attention. The NRC Regional Office and FBI Field Office dispatch representatives to the scene as warranted by the situation and inform their respective national headquarters about the situation. The NRC Headquarters in turn assures that the Atomic Energy Desk at the FBI Headquarters is informed promptly about the situation.

Upon arrival at the scene, the FBI and NRC field representatives coordinate and cooperate with each other in carrying out their respective responsibilities. The FBI is in charge of law enforcement operations and represents the Federal government in all law enforcement activity. The NRC facilitates FBI access into the licensed facility or activity as appropriate, provides information and advice regarding the facility or activity (particularly any radiological hazards), and supports the FBI wherever possible to resolve the situation. The FBI and NRC representatives report the situation and make recommendations to their respective agencies regarding the need for additional response assistance at the scene. The need for continuing FBI criminal investigation of the act would be determined by FBI Headquarters.

5.0 FBI Responsibilities.

In fulfilling its role with respect to incidents, at NRC licensed nuclear facilities and activities, the FBI accomplishes the following responsibilities:

(1) Provides to NRC intelligence information concerning possible criminal acts relative to the security of nuclear facilities, activities, and materials.

(2) Notifies NRC, unless otherwise precluded by statute or directive, of nuclear related threats and of alleged, attempted, or actual incidents involving sabotage of nuclear facilities and activities or diversion and theft of nuclear materials.

(3) Investigates ongoing nuclear related threat situations; advises the NRC regarding the credibility and danger of such threats.

(4) Accomplishes liaison and contingency response planning with pertinent local law enforcement agencies as required for effective coordinated law enforcement response operations.

(5) Accomplishes liaison with pertinent NRC staff, NRC Regional Offices, and the NRC representative at the scene of an incident, as required for effective information exchange, threat evaluation, contingency response planning, and FBI operations coordinations.

(6) Responds to any attempt to steal a shipment of licensed nuclear material or to any incursion or infiltration attempt against an NRC licensed nuclear facility or activity; appropriately directs and coordinates law enforcement operations at the scene; accomplishes hostage negotiation, special weapons and tactics team operations, and other FBI law enforcement actions as feasible and necessary to deal with the adversary and prevent nuclear material theft/diversion or sabotage.

(7) Investigates incidents of sabotage or attempted sabotage of an NRC licensed nuclear facility or activity.

(8) Investigates incidents of theft/diversion or attempted theft/diversion of NRC licensed nuclear material; conducts law enforcement operations as necessary to identify and apprehend suspects and to locate and recover stolen or diverted SNM.

(9) Investigates incidents of conspiracy and extortion attempts against NRC licensed facilities or activities.

(10) Requests information and other NRC support needed to expedite and facilitate FBI operations.

(11) Coordinates proposed FBI news releases regarding incidents at NRC licensed nuclear facilities and activities

with the Director, Office of Public Affairs, NRC Headquarters.

6.0 NRC Responsibilities.

In fulfilling its role with respect to incidents at NRC licensed nuclear facilities and activities, the NRC accomplishes the following responsibilities:

(1) Reviews and correlates intelligence information on possible criminal acts received from the FBI: coordinates with the FBI, and evaluates potential adversary capabilities and trends as a basis for rule making, evaluations, and systems design.

(2) Accomplishes liaison with pertinent FBI Headquarters staff and FBI Field Offices as required for effective information exchange, threat evaluation, contingency response planning, and NRC support of FBI response operations.

(3) Supports joint operational readiness planning between licensees and associated local law enforcement agencies for prompt law enforcement response assistance when needed at licensed facilities and activities.

(4) Notifies the FBI of threats involving NRC licensed nuclear facilities, activities, and materials; assists the FBI in evaluating the nuclear aspects of such threats and other nuclear threats as appropriate.

(5) Disseminates with the approval of the FBI to affected licensees alert and warning information received from the FBI about specific nuclear related threats.

(6) Promptly notifies the FBI about any attempt to steal a shipment of licensed nuclear material, or about any incursion or infiltration attempt against an NRC licensed nuclear facility or activity; responds to the scene of the incident as appropriate; provides NRC field liaison and technical assistance to the FBI at the scene.

(7) Notifies the FBI about incidents of sabotage or attempted sabotage of an NRC licensed nuclear facility or activity.

(8) Notifies the FBI about incidents of theft/diversion or attempted theft/diversion of NRC licensed nuclear material.

(9) Notifies the FBI about conspiracy or extortion attempts against NRC licensed nuclear facilities or activities.

(10) Provides assistance to the FBI in evaluating the radiological hazards of the particular incident and provides technical assessment of any potential or actual impact upon the public health and safety.

(11) Provides information and assistance requested by the FBI relative to FBI investigations of criminal acts attempted against NRC licensed nuclear facilities and activities.

(12) Coordinates with FBI Headquarters on proposed NRC news releases relative to incidents concerning licensed nuclear facilities, activities or materials if the FBI is involved.

7.0 Working Arrangement.

The working channels of communication established between the FBI and NRC for information exchange and coordination incident to carrying out their respective responsibilities hereunder are indicated in Section 4.3, Concept for Contingency Response Coordination and Cooperation. The identification of these points of contact is not intended to restrict communication between NRC and FBI staff members in technical, administrative and other day-to-day matters in the course of their normal activities and the discharge of agency responsibilities.

8.0 Effective Period.

This memorandum of understanding will take effect when it has been signed by the authorized representative indicated below for each agency. It may be terminated by either the FBI or the NRC following 90 days' written notification to that effect.

Dated: April 23, 1979.

For the Federal Bureau of Investigation.

William H. Webster,

Director, Federal Bureau of Investigation.

For the Nuclear Regulatory Commission.

Joseph M. Hendrie,

Chairman, Nuclear Regulatory Commission.

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45 FR 1315
Published 1/4/80

DEPARTMENT OF LABOR

Mine Safety and Health Administration, Nuclear Regulatory Commission Memorandum of Understanding

1. Purpose

The Mine Safety and Health Administration (MSHA), U.S. Department of Labor, and the U.S. Nuclear Reguaultory Commission (NRC), enter into this agreement in order to facilitate coordination and cooperation in areas of mutual jurisdiction and concern.

2. Background

Under Sections 3(h)(1) and 4 of the Federal Mine Safety and Health Act of 1977 (Mine Act), 30 U.S.C. 801-961 (Supp. I), MSHA has jurisdiction over occupational safety and health protection in the milling of minerals which can be used to produce atomic energy. These minerals are defined as "source material" in Section 11 of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2014(z). Under sections 63 and 161 of the Atomic Energy Act, 42 U.S.C. 2093 and 2201, and the National Environmental Policy Act, NRC also has jurisdiction over occupational safety and health protection in milling of these minerals.

3. Declaration of Intent

MSHA and the NRC recognize that they both have jurisdiction respecting protection of workers from safety and health hazards in source material mills. Although each agency will carry out its statutory responsibilities separately, the agencies agree that administrative efficiency will be maximized by:

a. Promulgation and enforcement of compatible safety and health standards and regulations;

b. Use of compatible inspection procedures and techniques where feasible;

c. Exchange of information respecting safety and health protection in mills subject to the jurisdiction of both agencies, and the exchange of other information pertinent to each agency's mission;

d. Exchenge of information regarding enforcement actions subject to the jurisdiction of both agencies.

4. Areas of Cooperation

a. NRC will assist MSHA in developing safety and health standards compatible with existing NRC regulations. Whenever MSHA or NRC identify the need to promulgate any safety or health standard or regulation which is new to both agencies, or to modify an existing standard or regulation, a joint development project will be initiated. If public meetings or hearings are to be conducted, they will be conducted jointly if possible. MSHA and NRC will initiate a joint review of data keeping regulations and other requirements applicable to source material milling operations, and will attempt to implement compatible programs in this area.

b. MSHA and NRC will perform a trial joint inspection program to identify areas where duplication of MSHA and NRC regulation of mills can be reduced. By undertaking this program, the two agencies will seek to make maximum use of the government's resources and develop procedures which will result in the greater assurance of improved safety and health to persons working in milling operations. At the end of a twelve month trial period, the program will be evaluated. Based on this evaluation, recommendations will be made as to how the public interest could be best served in the area of mutual agency cooperation.

c. MSHA and NRC agree to exchange information pertinent to safety and health hazards, including epidemiological data; mill licensing actions; inspection, investigation, and other reports; and technical information.

The two agencies also agree to cooperate in development and evaluation of medical information pertaining to health hazards from source materials and their daughter products. Each agency will protect the confidentiality of information identified as proprietary that has been supplied to it by the other agency.

d. MSHA and NRC agree to coordinate agency activities respecting safety and health, to the extent possible, in the areas of training programs and such other areas as the agencies may designate, and to cooperate in the implementation of any such programs.

e. Neither NRC nor MSHA will provide advance notice of any joint MSHA-NRC inspection or any other inspection by the other agency. MSHA will advise NRC of any significant administrative adjusticatory proceeding or court proceeding in which it is a party, where such proceeding may affect NRC's programs. MSHA will also advise NRC of any hearing to be held under Section 107(b) of the Mine Act and of the result of any such hearing where the subject of such a hearing may affect NRC's programs. NRC will advise MSHA of any significant enforcement action to be taken, or taken, under the Atomic Energy Act which may affect MSHA's programs, and will advise MSHA of any administrative adjusticatory proceeding or court proceeding in which it is a party where such proceeding may affect MSHA's programs. Each agency will advise the other agency of such administrative or court proceedings at a time early enough to allow the other agency to prepare for meaningful participation if appropriate.

5. MSHA-State Coordination

NRC agrees to assist MSHA in coordinating MSHA's activities with agencies of those States which, under Section 274 of the Atomic Energy Act, 42 U.S.C. 2021, license and inspect source material mills pursuant to agreements with NRC.

6. Implementation

The MSHA official responsible for implementation of this agreement is the Chief, Metal and Nonmetal Mine Health Division; the NRC official responsible for implementation of this agreement is the Executive Director for Operations. Working level coordination shall be established for both headquarters and field operations.

7. Freedom of Information Act Requests

MSHA and NRC shall develop procedures for when consultation with the other agency is necessary before release of information under the Freedom of Information Act, regarding projects and programs implemented pursuant to this agreement. These procedures shall in no way supersede, supplement, or otherwise contravene the Freedom of Information Act or the respective agency Freedom of Information Act regulations.

8. Amendment and Termination

This agreement may be modified, amended or terminated upon thirty (30) days written notice by either party.

9. Effective Date

This agreement is effective when signed by both parties.

Dated: November [illegible], 1979.

Lee V. Gossick,

Executive Director for Operations, U.S. Nuclear Regulatory Commission.

Dated: December 11, 1979.

Robert B. Lagather,

Assistant Secretary, Mine Safety and Health Administration, Department of Labor.

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45 FR 8393
Published 2/7/80

Memorandum of Understanding Between the State of Oregon and the Nuclear Regulatory Commission

The Nuclear Regulatory Commission (NRC) and the State of Oregon have signed a Memorandum to cooperate in the regulation of nuclear activities and have signed more detailed sub-agreements covering the sharing of proprietary information and the coordination of resident inspector programs.

The broad Memorandum of Understanding expresses the desire of the State of Oregon and the NRC to cooperate in the regulation of nuclear activities and sets forth principles of cooperation in areas subject to the jurisdiction of both parties. It is intended to form the basis for additional detailed sub-agreements such as the ones on proprietary information and resident inspectors. Neither the Memorandum nor the sub-agreements diminish the responsibilities or authority of either the NRC or the State.

Under the Memorandum, the State and NRC will consult regularly and cooperate in exploring and devising procedures to minimize duplication of effort, avoid delays in decision making and ensure the exchange of needed information.

The Memorandum with Oregon follows closely the precedent established with the signing of similar instruments with Washington on September 6, 1978 (43 FR 43774) and with Indiana on December 14, 1978 (43 FR 61053).

The first detailed sub-agreement provides for protection of information related to nuclear plant security and proprietary information.

The second detailed sub-agreement covers the relationship between the NRC and the Oregon Department of Energy concerning their respective resident inspector programs at the Trojan Nuclear Facility 30 miles northwest of Portland.

The Memorandum of Understanding became effective when signed by Governor Atiyeh in Salem, Oregon on January 19, 1980. The two sub-agreements became effective when signed the same day by Mr. Frank, Director, Oregon Department of Energy. The text of all three instruments is published below.

For further information contact: Frank W. Young, Office of State Programs, telephone 301/492-7794, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, or Donald W. Godard, Administrator, Siting and Regulation, telephone 503/378-6469, Oregon Department of Energy, Room 111, Labor and Industries Building, Salem, Oregon 97310.

Dated at Bethesda, Maryland, this 31st day of January, 1980 for the Nuclear Regulatory Commission.

G. Wayne Kerr,

Acting Director, Office of State Programs.

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45 FR 8394
Published 2/7/80

Memorandum of Understanding Between the State of Oregon and the Nuclear Regulatory Commission

This Memorandum of Understanding between the State of Oregon (hereafter "State") and the U.S. Nuclear Regulatory Commission (hereafter "NRC") expresses the desire of the parties to cooperate in the regulation of nuclear activities; it sets forth mutually agreeable principles of cooperation between the State and NRC in areas subject to the jurisdiction of the State or the NRC or both. This agreement is intended to provide the basis of subsequent detailed sub-agreements between the parties.

Close cooperation between the signatories will help assure that the goals and policies of State and Federal law will be carried out efficiently and expeditiously without diminishing the responsibilities or authorities of either party.

With the execution of this Memorandum, the State and NRC agree regularly to consult and cooperate in exploring and devising appropriate procedures to minimize duplication of effort to the extent permitted by State and Federal law, to avoid delays in decision making and to ensure the

best copy available

exchange of information that is needed to make the most effective use of the resources of the State and NRC in order to accomplish the purpose of both parties.

Principles of Cooperation

1. The State and NRC agree to explore together the development of detailed sub-agreements in areas of mutual concern, including siting of nuclear facilities;* water quality; nuclear facility operation; confirmatory radiological and environmental monitoring around nuclear facilities; decommissioning of nuclear facilities; emergency preparedness planning; response to radiological incidents; security planning; personnel training and exchange; and radioactive material transportation monitoring.

2. Sub-agreements under this Memorandum may provide for activities to be performed by either party under mutually acceptable guidelines and criteria which assure that the needs of both are met. For activities performed by one party at the request of the other party under specific sub-agreements to this Memorandum, either party may explore means by which compensation can be made available to the other party or by which the costs may be shared by the parties.

3. Each party agrees to concurrently supply the other party copies of written correspondence between it and the operator of a nuclear facility in Oregon. This agreement applies to proprietary information except as specifically provided in the attached Sub-agreement 1. Each party stands ready at the request of the other to provide reasonably available technical information.

4. Nothing in this Memorandum is intended to restrict or extend the constitutional or statutory authority of either NRC or the State or to affect or vary the terms of the present agreement (signed by Oregon Governor Mark O. Hatfield and AEC Chairman Glenn T. Seaborg in June 1965) between the state and NRC under Section 274b of the Atomic Energy Act of 1954, as amended.

5. The principal NRC contact under this Memorandum shall be the Director of the Office of State Programs. The principal State contact shall be the Director of the Oregon Department of Energy or his or her designee. Sub-agreements will name appropriate individuals, agencies or offices as contacts.

6. This Memorandum shall take effect immediately upon signing by the Governor of the State of Oregon and the Executive Director for Operations of the Nuclear Regulatory Commission, and may be terminated upon 30 days written notice by either party.

For the State of Oregon.

Victor Atiyeh,
Governor.

Dated at Salem, Oregon this 19th day of January 1980.

For the United States Nuclear Regulatory Commission.

Lee V. Gossick,
Executive Director for Operations.

Dated at Bethesda, Maryland this 4th day of January, 1980.

Sub-Agreement 1 Between the Oregon Department of Energy and the Nuclear Regulatory Commission

Protective Agreement for Exchange of Information

A. *Scope*

This sub-agreement governs the conveyance between the United States Nuclear Regulatory Commission (NRC) and the Oregon Department of Energy (ODOE) of documentary material, or copies thereof, "containing trade secrets or privileged or confidential commercial, financial, security information" ("proprietary information") or inspection manuals regarding nuclear facilities (whether planned, under construction or completed) within the State of Oregon. All such information shall be transmitted and received in confidence by the parties to this sub-agreement.

B. *Provisions for the Conveyance of Information between the NRC and the ODOE*

1. Pursuant to 10 CFR 2.790 and 10 CFR 9.5(a) of the NRC's regulations, the conveyed information is to be withheld from public disclosure.

2. 10 CFR 2.790(b)(6) of the NRC's regulations permits the NRC to allow proprietary information to be subject to inspection under a protective agreement. Additionally, the NRC's disclosure in confidence of NRC inspection manuals by this agreement is expressly not to be construed as a public disclosure of those documents.

3. ODOE agrees to accept and protect from public disclosure the materials provided by the NRC in confidence pursuant to one or more of the following sections of the Oregon revised statutes (ORS): 192.500(2)(b), 192.500(2)(c), 192.500(2)(g), 469.080, 469.090, 469.560, and 469.990.

4. The only persons permitted access to information provided to ODOE by NRC as a result of a conveyance under this agreement shall be the Director of the ODOE ("Director"), members of the Energy Facility Siting Council (EFSC), the Administrator of the Siting and Regulation Program of the ODOE ("Siting and Regulation Administrator"); and the nuclear engineer staff members of the Siting and Regulation Program ("nuclear engineers").

5. Materials conveyed to the ODOE under this agreement shall be stored in a bank safe deposit box or a locked security cabinet or safe to which access shall be provided no persons other than the Director, the Siting and Regulation Administrator, and the nuclear engineers.

6. The Director, EFSC members, Siting and Regulation Administrator, and nuclear engineers shall make no copies of materials conveyed to the ODOE under this agreement and shall discuss the information conveyed to the ODOE under this agreement with no persons other than themselves, the appropriate representatives of the companies which supplied the information to the NRC, and the appropriate representatives of the NRC.

7. ODOE will maintain an inventory of all documents received under this agreement. The inventory and documents will be available for NRC review upon request.

8. ODOE agrees to review annually its inventory of conveyed information and return those items no longer needed.

C. *Classified Information*

In the event ODOE requires access to classified information (e.g., restricted data or national security information), ODOE will work with NRC to obtain the necessary authorization and to provide the necessary facilities to review and store such information in accordance with all Federal rules and regulations.

D. *Authority*

Nothing in this sub-agreement is intended to restrict or extend the constitutional or statutory authority of either NRC or the State.

E. *Contacts*

The principal NRC contact under this sub-agreement shall be the Chief, Safeguards Branch, Region V. The principal State contact shall be the Administrator, Siting and Regulation of the Oregon Department of Energy.

F. *Effective Date*

This sub-agreement shall take effect immediately upon signing by the Director of the Oregon Department of Energy and the Executive Director for Operations of the Nuclear Regulatory Commission, and may be terminated upon 30 days written notice by either party.

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* For the purpose of this Memorandum of Understanding, the term nuclear facilities is defined to include the following plants or facilities within Oregon to the extent that these facilities are not covered by the NRC-State agreement referenced in paragraph 4:

a. Nuclear power, research, and test facilities, and associated facilities;
b. Nuclear fuel reprocessing facilities;
c. Uranium isotope enrichment facilities;
d. Nuclear fuel fabrication plants;
e. Nuclear waste treatment, storage, and disposal plants;
f. Uranium milling plants and mill tailings; and
g. Uranium hexafluoride conversion plants.

For the Oregon Department of Energy.

Lynn Frank,

Director.

Dated at Salem, Oregon, this 19th day of January 1980.

For the United States Nuclear Regulatory Commission.

Lee V. Gossick,

Executive Director for Operations.

Dated at Bethesda, Maryland this 4th day of January, 1980.

Sub-Agreement 2 Between the Oregon Department of Energy and the Nuclear Regulatory Commission

Resident Inspectors

A. *Scope*

This sub-agreement covers the relationship between the United States Nuclear Regulatory Commission (NRC) and the Oregon Department of Energy concerning their respective resident inspector programs at the Trojan Nuclear Facility (Trojan) located 30 miles northwest of Portland, Oregon, and operated by Portland General Electric Company (PGE).

During its 1979 Session, the Oregon Legislative Assembly enacted and the Governor signed Senate Bill 641 which requires the Oregon Department of Energy (ODOE) to maintain an inspector at the site of a nuclear-fueled thermal power plant. Under the resident inspector program established by the Nuclear Regulatory Commission, the NRC's Office of Inspection and Enforcement has stationed its own resident inspector at Trojan. This agreement will specify the relationship between the two programs.

B. *Training*

NRC will use its best efforts to make available space in its inspector training courses to accommodate any inspector or alternates hired by ODOE to be stationed at Trojan.

C. *Inspection Manuals*

NRC will make inspection manuals available to ODOE.

D. *Authority*

The parties agree that the ODOE inspector will not have authority to direct PGE employees to take any action. Under Oregon law, this is within the exclusive State jurisdiction of the Director of the Oregon Department of Energy or in his absence, the Governor. The inspector will make his recommendations to the Director through the Administrator, Siting and Regulation.

The Director of the Oregon Department of Energy or in his absence, the Governor shall not require the operators of Trojan to take action contrary to NRC requirements. If ODOE finds it necessary to direct the operators of Trojan to take action, ODOE shall obtain NRC's prior agreement that such action does not have an adverse effect on plant or public safety.

Nothing in this sub-agreement is intended to restrict or extend the constitutional or statutory authority of either NRC or the State.

E. *ODOE Inspector's Duties*

The ODOE inspector's duties include the following:

1. Observing reactor plant maintenance, engineering, quality assurance, security, emergency planning and operation to evaluate compliance with Federal and State safety standards. Specific aspects to be observed include the control of reactivity, radiological protection and control, water chemistry control, system repair and preventive maintenance, in-service inspections and periodic testing, and compliance with plant security programs.
2. Advising the State of Oregon about this significance of any incident at the plant, and whether the corrective action taken is prompt and complete, by reviewing engineering system design, sequence of events, and trouble-shooting. This will include discussion of the incident with the plant management and off-site engineering managers.
3. Reviewing changes in plant operating and maintenance procedures and system modifications for conformance with State and Federal requirements, compatibility with system design, and effect on safe plant operations.
4. Researching plant conditions or practices to support ODOE engineering evaluation of the safe operation of the plant, including identification of as-built conditions, determination of historical performance of equipment, and review of operating practices.

F. *Working Relationships*

1. The ODOE inspector will not attempt to duplicate the regulatory activities of the NRC, but will rather attempt to supplement the NRC regulatory activities. To the extent possible, the ODOE and NRC inspectors will arrange their schedules and inspection activities so that their on-site activities complement each other, in order to provide the widest possible coverage of the plant and its operations.
2. The ODOE inspector will cooperate with the assigned NRC resident inspectors. The NRC inspector will reciprocate.
3. To the extent possible, the ODOE inspector may observe NRC audits, reviews, inspections, investigations, drills and meetings at Trojan. In the same way, the NRC resident inspector may observe ODOE audits, reviews, inspections, investigations, drills and meetings at Trojan. The parties recognize that there will be occasions when, because of the sentitive nature of certain meetings, it may be necessary for the parties to conduct interviews privately and separately.
4. The ODOE is invited to all NRC exit interviews. In the same way, to the extent possible the NRC inspector may attend ODOE exit interviews. PGE will advise the ODOE and NRC inspectors of the time, date and location of all exit interviews.

G. *Contacts*

The principal NRC contact under this sub-agreement shall be the Director of NRC's Region V office. The principal State contact shall be the Administrator of Siting and Regulation, Oregon Department of Energy.

H. *Effective Date*

This sub-agreement shall take effect immediately upon signing by the Director of the Oregon Department of Energy and the Director of the Office of Inspection and Enforcement of the Nuclear Regulatory Commission, and may be terminated upon 30 days written notice by either party.

For the Oregon Department of Energy.

Lynn Frank,

Director.

Dated at Salem, Oregon this — day of January 1980.

For the United States Nuclear Regulatory Commission.

Victor Stello,

Director, Office of Inspection and Enforcement.

Dated at Bethesda, Maryland this 4th day of January, 1980.

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45 FR 72980
Published 11/3/80

ENVIRONMENTAL PROTECTION AGENCY

NUCLEAR REGULATORY COMMISSION

[RH-FRL-1653-3]

Regulation of Radionuclide Emissions; Memorandum of Understanding

AGENCIES: Environmental Protection Agency, Nuclear Regulatory Commission.

ACTION: Notice of a Memorandum of Understanding.

SUMMARY: The Environmental Protection Agency (EPA) and the Nuclear Regulatory Commission (NRC) have entered into a Memorandum of

Understanding as required by section 122(c)(2) of the Clean Air Act, as amended in 1977, with respect to the regulation of radionuclide emissions into air from sources and facilities licensed by NRC. This Memorandum defines in general terms the respective roles of the two agencies and establishes a framework of cooperation for avoiding unnecessary duplication of effort and for conserving resources in establishing, implementing, and enforcing standards for airborne radionuclide emissions from sources and facilities licensed by NRC. This Memorandum may be revised in the future as EPA develops Clean Air Act radionuclide standards applicable to NRC licensees.

ADDRESSES: Docket No. A–79–11, containing material relevant to this action, is located in the U.S. Environmental Protection Agency, Central Docket Section, Waterside Mall, West Tower Lobby, Gallery One, 401 M Street, SW, Washington, DC. The Docket may be inspected between 8 a.m. and 4 p.m. on weekdays, and a reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Paul J. Magno, Office of Radiation Programs (ANR–460), U.S. Environmental Protection Agency, Washington, DC 20460, telephone (703) 557–7380, or John W. N. Hickey, Office of Standards Development, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 443–5966.

SUPPLEMENTARY INFORMATION: Under various statutes both EPA and NRC have the authority to regulate radioactive emissions of source material, byproduct material, and special nuclear material into the air. Under the Atomic Energy Act of 1954 and Title II of the Energy Reorganization Act of 1974, NRC is authorized to license and regulate the manufacture, production, receipt, acquisition, possession, ownership, use, and transfer of source material, byproduct material, and special nuclear material.[1] Under the Clean Air Act, as amended in 1977, EPA was also given the authority to regulate air emissions of source material, byproduct material, and special nuclear material.[2]

Section 122(a) of the Clean Air Act, as amended in 1977, directed the Administrator of EPA to determine whether emissions of radioactive pollutants (including source material, byproduct material, and special nuclear material) into ambient air will cause or contribute to air pollution which may reasonably be anticipated to endanger public health. If the Administrator made an affirmative finding, he was required to list radioactive pollutants as substances to be regulated under the Clean Air Act.

On December 27, 1979, the Administrator of EPA made an affirmative finding and listed "radionuclides" as hazardous air pollutants under Section 112 of the Clean Air Act (44 FR 76738, December 27, 1979). The term "hazardous air pollutant," as defined by Section 112, means an air pollutant to which no ambient air quality standard is applicable and which causes or contributes to air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness. After listing radionuclides as hazardous air pollutants under Section 112 of the Clean Air Act, the Administrator must promulgate regulations establishing standards for these pollutants, and where applicable, all sources and facilities emitting these pollutants, including NRC-licensed sources and facilities, must comply with these standards.

NRC-licensed sources and facilities include nuclear power plant operations and other activities in the nuclear fuel cycle, research and development laboratories, universities, research and test reactors, hospitals, radiopharmaceutical facilities, industrial users and various miscellaneous users of source material, byproduct material, and special nuclear material. Radionuclide air emissions from these licensed sources and facilities are already limited or controlled by a number of existing regulations and standards, including:

1. 10 CFR Part 20, "Standards for Protection Against Radiation," which among other things specifies limits for radionuclide releases into air from all NRC licensees and includes the provision that these releases should be "as low as reasonably achievable" (ALARA);

2. Appendix I of 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," which specifies numerical design objectives to insure that radionuclide releases from light water nuclear power reactors are kept "as low as reasonably achievable" (this regulation is implemented by NRC through technical specifications on individual licensees which specify release limits); and

3. 40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations," which establishes generally applicable standards for radionuclide emissions from uranium fuel cycle facilities.[3]

Recognizing the overlapping jurisdictional authorities resulting from the Clean Air Act Amendments of 1977, Congress, under Section 122(c)(2) of the Clean Air Act, as amended in 1977, directed EPA and NRC, no later than six months after EPA lists any source material, byproduct material, or special nuclear material as a substance to be regulated under the Act, to enter into an interagency agreement with respect to those sources or facilities which are under NRC's jurisdiction. The Act states that this agreement shall minimize duplication of effort and conserve resources in establishing, implementing, and enforcing Clean Air Act radionuclide standards for sources or facilities licensed by NRC.

EPA and NRC have entered into such an agreement. Under this agreement EPA shall promulgate standards for airborne radionuclide emissions under its Clean Air Act authority and NRC shall have the primary role in implementing and enforcing these standards where applicable for sources and facilities licensed by NRC. EPA shall inform NRC of proposed actions for the development of Clean Air Act radionuclide standards for sources and facilities licensed by NRC and shall consult regularly with NRC during the standards development process. NRC shall assist EPA in standards development by (a) providing information and recommendations, (b) participating in studies, and (c) reviewing and commenting on proposed standards.

As EPA standards are developed for NRC-licensed sources and facilities, EPA and NRC will work together in developing mutually acceptable procedures for implementing and enforcing these standards. These efforts are expected to lead to a revision of this agreement defining the specific roles of each agency in implementing and enforcing these standards. This revision should be completed before EPA proposes its first standards applicable to NRC-licensed sources and facilities.

The text of the Memorandum of Understanding is set forth below.

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[1] Source material, byproduct material, and special nuclear material are radioactive materials as defined in the Atomic Energy Act of 1954 as amended.

[2] Under the Atomic Energy Act of 1954 and Reorganization Plan No. 3 of 1970, EPA also is authorized to establish generally applicable environmental standards for protection of the general environment from radioactive materials. These standards, which apply outside the boundaries of NRC-licensed facilities, are implemented by NRC through its licensing authority.

[3] This standard was issued by EPA under the Atomic Energy Act authority to establish generally applicable environmental radiation standards. Uranium fuel cycle facilities subject to 40 CFR 190 and regulated by NRC, include uranium mills, uranium conversion plants, uranium fuel fabrication plants, light-water-cooled nuclear power plants using uranium fuel, and spent uranium fuel reprocessing plants, as defined in 40 CFR 190 (42 F.R. 2858, January 13, 1977).

Memorandum of Understanding Between EPA and NRC Concerning the Clean Air Act, as Amended in 1977

In accordance with Section 122(c)(2) of the Clean Air Act, as amended in 1977, to minimize duplication of effort and conserve resources in the regulation of radionuclide emissions to air from sources or facilities licensed by NRC, EPA and NRC agree to the following:

I. Establishment of Standards

1. EPA shall promulgate standards for airborne radionuclide emissions under its Clean Air Act authority.

2. EPA shall inform NRC of proposed actions for the development of Clean Air Act radionuclide standards for sources and facilities licensed by NRC and shall consult regularly with NRC during standards development.

3. NRC shall assist EPA in standards development by:

a. Providing EPA with available data and information on NRC-licensed sources and facilities as needed, including information on radionuclide air emissions, the environmental impact of these emissions, and control technology for reducing these emissions;

b. Participating with EPA in carrying out any necessary special studies at NRC-licensed sources and facilities; and

c. Providing recommendations and reviewing and commenting on EPA's proposed standards.

II. Implementation and Enforcement of Standards

1. NRC, using its own regulatory program and statutory and regulatory authorities, shall have the primary role in implementing and enforcing EPA's Clean Air Act radionuclide standards for sources and facilities licensed by NRC.

2. During the development of Clean Air Act radionuclide standards for NRC-licensed sources and facilities, EPA and NRC shall work together to establish mutually acceptable procedures for implementing and enforcing these standards. These procedures will be consistent with the provisions of the Clean Air Act and will allow both EPA and NRC to fulfill their statutory responsibilities with a minimum of duplication of effort. These procedures and the specific roles of each agency in carrying out these procedures will be defined in a revision to this agreement which should be completed before EPA proposes its first standards applicable to sources and facilities licensed by NRC.

III. Effective Date, Revision, and Termination

This Memorandum shall be effective immediately, and shall continue in effect until revised by mutual agreement, unless terminated by either party upon 120 days notice in writing.

Dated: October 17, 1980.

David G. Hawkins,

Assistant Administrator for Air, Noise, and Radiation, U.S. Environmental Protection Agency.

Dated: October 24, 1980.

William J. Dircks,

Executive Director for Operations, U.S. Nuclear Regulatory Commission.

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45 FR 75033
Published 11/13/80

Nuclear Safety Information and Activities; Memorandum of Understanding Between the Nuclear Safety Oversight Committee and the Federal Emergency Management Agency with Respect to the Acquisition of Information and the Monitoring of Activities

1. The Nuclear Safety Oversight Committee (NSOC) was established pursuant to Executive Order 12202 (March 18, 1980) to advise "on the progress of Federal and State authorities and the nuclear power industry in improving the safety of nuclear power and in implementing the approved recommendations of the President's Commission on the Accident at Three Mile Island (Kemeny Commission)" set forth in the President's announcement and White House Fact Sheet of December 7, 1979 (copy attached to this memorandum). On September 26, 1980 the President issued Executive Order 12240, which extended the life of NSOC to September 30, 1981.

NSOC is responsible for the preparation and periodic submission of reports to the President, the Secretary of Energy, and the Secretary of Health and Human Services on the progress being made in each area. In addition, NSOC is specifically responsible to advise on the progress and activities of the Federal Emergency Management Agency (FEMA) in a variety of substantive and procedural areas identified in the Executive Order, Sec. 1–2. These include, but are not limited to, the following:

- The Federal program in safety research (Sec. 1–204);
- A coordinated program to improve worker and public health and safety (Sec. 1–205);
- A review of state and local off-site emergency planning and preparedness, service civilian related radiological emergencies; and (6) assure the development of programs to address the recommendations for additional research and public education needs.

3. The Federal Emergency Management Agency, in recognition of NSOC's responsibility and essential need for information as described in paragraph 1, above, agrees to cooperate fully to assure that NSOC has complete and full access to all information, facilities, and personnel NSOC determines is required to fulfill its responsibility in an effective and timely manner. In order to effectuate this agreement in an orderly fashion, the NSOC and FEMA also agree to the following principles and arrangements:

a. *Informal and Formal Arrangements*

The NSOC, its staff and its properly designated consultants may regularly contact FEMA personnel at all levels to develop and implement informal or formal arrangements for complete and full access and/or acquisition to all information, facilities and personnel in the general and specific areas identified in paragraph 1, above. To the extent possible, the use of informal arrangements to implement this provision is preferred;

b. *Designated Information Coordinator*

FEMA shall designate a person to serve as information coordinator who will be directly responsible for providing, or for causing others to provide, the information requested by NSOC personnel. Contacts described in a. above shall be made only after the FEMA Information Coordinator has been informed that such a contact will be made. Any formal arrangements for providing FEMA information to NSOC shall be coordinated through the Designated Information Coordinator;

c. *"Legal" Information Defined*

The term "legal," as used in paragraph 1 of this memorandum includes, but is not limited to, (1) all briefs or memoranda filed by FEMA and the United States, in any Federal or state judicial proceeding, in a controversy involving nuclear safety, emergency planning or preparedness, or a subject matter which, in FEMA's view, relates to the responsibilities of NSOC; (2) opinions or memoranda issued by any Federal or state judicial tribunal in a controversy in which FEMA is a party and which involves the subject matter identified in subparagraph c (1), above; and (3) proposed legislation affecting FEMA's responsibility. FEMA agrees to arrange for the regular transmission of these materials to NSOC;

d. *Operation not Materially Affected*

and the progress of state and local governments in establishing emergency response plans (Sec. 1–206): and

- Improving public information on nuclear safety and FEMA's progress in coordinating any Federal response to potential nuclear emergencies (Sec. 1–207).

NSOC's acquisition or inspection of technical, scientific, legal and policy related information in FEMA's possession, the monitoring of FEMA's functions and activities, the availability and responsiveness of FEMA personnel, and NSOC's access to FEMA operated, financed or approved facilities or programs are essential to the effective and timely preparation and submission of its reports (see Sec. 1–208, and 1–304). Additionally, the President has directed NSOC to "include in its reports the Committee's advice as to the adequacy of the information it has received from Federal . . . agencies . . . ; and, its assessment of the cooperation it has received from them." (Sec. 1–201).

2. The Federal Emergency Management Agency, pursuant to Reorganization Plan No. 3 of 1978, Executive Order 12148 of July 20, 1979 and other laws and regulations, is responsible for, and coordinates civil emergency planning, management, mitigation and assistance functions of the executive agencies of the United States, and it works with state and local governments and the private sector to stimulate vigorous participation in civil emergency preparedness, mitigation, response and recovery programs.

In the President's announcement and White House Fact Sheet of December 7, 1979, referred to in paragraph 1 above and attached to this memorandum, the FEMA was directed to, *inter alia*, address the need for improved advance preparation for emergencies and public education programs in the context of state emergency response plans. Specifically, FEMA was directed to: (1) take the lead in off-site emergency planning and response; (2) complete by June 1980 the review of state emergency plans in those states with operating reactors; (3) complete as soon as possible the review of state emergency plans in those states with plants scheduled for operation in the near future; (4) develop and issue an updated series of interagency assignments which would delineate respective agency capabilities and responsibilities and clearly define procedures for coordination and direction for both emergency planning and response; (5) assure that DOE resources and capabilities for responding to radiological emergencies are made available and augmented as needed to

The implementation of this memorandum shall not materially impede or disrupt the operation, routine or regularized conduct of FEMA procedures and programs;

e. *Authority not Affected*

Nothing in this memorandum, or in its implementation, or in any subsequent formal or informal arrangement is intended to restrict, modify or limit the authority of FEMA or the responsibility of the NSOC under Executive Order 12202, Executive Order 12240 and other applicable laws;

f. *Classified Documents, Devices of Facilities*

Nothing in this memorandum, or in its implementation, is intended to alter, modify or change applicable requirements concerning the personal security clearance of individuals or the informational or physical security of classified documents, devices or facilities;

g. *Responsible Agency Official and the Process of Amendment*

The General Counsel of the FEMA and the General Counsel of the NSOC will periodically review the effectiveness of this memorandum of understanding, particularly as it relates to NSOC's fulfillment of its responsibilities under Executive Order 12202 and Executive Order 12240 and develop formal and informal arrangements to correct any impediments, deal with problem areas or resolve disputes. The responsibilities agreed to in this memorandum may be amended by the exchange of letters between the General Counsel of NSOC and the General Counsel of FEMA.

4. This memorandum of understanding shall take effect upon its signing by authorized representatives of the respective agencies.

For the Nuclear Safety Oversight Committee.

Dated: November 7, 1980.

Bruce Babbitt,

Chairman, Nuclear Safety Oversight Committee.

For the Federal Emergency Management Agency.

Dated: October 28, 1980.

John W. Macy, Jr.,

Director, Federal Emergency Management Agency.

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46 FR 56960

Published 11/19/81

Memorandum of Understanding Between the Nuclear Regulatory Commission and the Department of Energy; Implementation of the West Valley Demonstration Project Act of 1980

The Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE) have entered into a Memorandum of Understanding concerning the Western New York Nuclear Service Center (the Center) at West Valley, New York. This Memorandum establishes procedures for review and consultation by the NRC with respect to activities at the Center under the West Valley Demonstration Project Act of 1980.

The text of this Memorandum is set out below.

WEST VALLEY DEMONSTRATION PROJECT, MEMORANDUM OF UNDERSTANDING BETWEEN THE U.S. DEPARTMENT OF ENERGY AND THE U.S. NUCLEAR REGULATORY COMMISSION

Memorandum of Understanding West Valley Demonstration Project

I. Purpose and Scope

This Agreement, mandated by the West Valley Demonstration Project Act of 1980, (the Act), Pub. L. No. 96–368, establishes procedures for review and consultation by the U.S. Nuclear Regulatory Commission (NRC) with respect to activities conducted at the Western New York Nuclear Service Center, West Valley, New York (the Center) by the U.S. Department of Energy (the Department) under the Act. This agreement encompasses those development, design, construction, operation, and decontamination and decommissioning activities that are associated with the project as described in the Act.

II. Responsibilities of Parties

A. Department of Energy

1. The Act directs the Department to carry out a high-level radioactive waste management demonstration project (the project) at the Center. Under the Act, the Department is responsible for demonstrating the solidification and preparation of the liquid high-level radioactive wastes stored at the Center in a form suitable for transportation and disposal. The Department has responsibility for the public health and safety associated with this project. The Department agrees to provide the NRC information required to identify any potential radiological danger to public health and safety and to provide access

to the Center to NRC for the monitoring of project activities to further assure the public health and safety from a radiological standpoint.

2. The Department's Deputy Assistant Secretary for Nuclear Waste Management and Fuel Cycle Programs, or his successor, is responsible for ensuring the implementation of the terms of this Agreement. The Department's West Valley Project Manager (Project Manager) will be the Department's point of contact for all communications relating to carrying out the provisions of this Agreement. The Department's Project Manager will coordinate all interactions with the NRC and, on a timely basis, provide the NRC the information, reports, and access as provided in this Agreement. The Department's Project Manager will consult with the NRC on matters within the scope of this Agreement. This consultation includes the exchange of information and opinion, in person, and in writing, between personnel of both the Department and the NRC.

B. Nuclear Regulatory Commission

1. The Act requires that the Department enter into an agreement with the NRC to establish arrangements for review and consultation by the NRC with respect to the project. The review and consultation shall be conducted informally and, in accordance with the Act, shall not be subject to formal Commission procedures or actions required by law for licensed activities. The NRC review, consultation, and monitoring established by this Agreement will provide the Department with independent analyses to assist the Department in fulfilling its responsibility for public health and safety. The NRC has the responsibility to carefully review, critique, and analyze, in a timely manner, the information provided to identify to the Department any potential radiological danger to the public health and safety which may be presented by the project.

2. The NRC's Director of Nuclear Material Safety and Safeguards (NMSS), or his successor, is responsible for ensuring the implementation of the terms of this Agreement. The NRC's West Valley Project Manager (Project Manager) will be the NRC point of contact for all communications relating to carrying out the provisions of this Agreement. NMSS, or any office to whom its functions may be transferred, is responsible for reviewing, consulting with respect to, and commenting upon project activities to identify any potential radiological danger to the public health and safety. The NRC's Project Manager will receive and coordinate the review of project information submitted by the Department. The NRC's Project Manager will provide the Department with comments as appropriate or required by this Agreement. The NRC's Project Manager will consult with the Department on matters within the scope of this Agreement. This consultation includes the exchange of information, opinion and advice, in person and in writing, between personnel of both the Department and the NRC.

III. Agreements Between Parties

A. General Provisions

1. The purpose of this Agreement is to promote the timely and orderly completion of the project mandated by the Act with due regard for the public health and safety. Essential to this timely and orderly completion is a relationship between the agencies marked by open and candid communications at all levels and prompt resolution of any issues which may arise.

2. Insofar as practicable, the NRC agrees to receive and use information and reports developed in the course of the Department's routine operations, and in accordance with Department administrative rules, regulations, procedures and orders which apply to its management and control of the project. The Department will, however, provide the NRC such additional information as the NRC may require to identify any potential radiological danger to the public health and safety which may be presented by the project. To the extent not subject to the exemptions contained in 5 U.S.C. 552(b), information or reports required under this agreement to be submitted by the Department to the NRC, for review and any comments provided by the NRC to the Department in response thereto, shall be available for public inspection.

3. NRC comments resulting from its review and consultation will be discussed between the respective Project Managers and confirmed in writing. The Department will inform the NRC in writing of the disposition of such comments upon NRC's request.

4. Should an activity be identified by NRC as posing an immediate radiological threat to public health and safety, the NRC's Director, NMSS, will so notify the Department's Project Manager. The Department will promptly review the activity and take appropriate action. The NRC and the Department agree that a high priority will be given such resolutions.

5. The Department will transport, in accordance with applicable provisions of law, the waste solidified at the Center to an appropriate Federal repository for permanent disposal.

6. The Department will, in accordance with applicable licensing requirements, dispose of low-level radioactive and transuranic waste produced by the solidification of the liquid high-level waste under the project.

7. For those portions of the Center in the possession of the Department which are not used in connection with the project, the Department will provide the Commission information to identify any potential radiological danger to the public health and safety and access to monitor the activities.

8. To the extent that detailed working procedures are necessary to implement the provisions of the Act and of this Agreement, the Department and the NRC agree to establish such procedures by the exchange of letters between the Department's Project Manager and the NRC's Chief, Advanced Fuel and Spent Fuel Licensing Branch, or his successor.

9. If an issue should arise which cannot be promptly resolved between Project Managers, the NRC and the Department agree to refer the matter to appropriate management levels for resolution.

10. Nothing in this Agreement shall derogate from the statutory authority of the Department or the NRC.

B. Specific Provisions

1. *Waste Solidification, Disposal, and Decontamination Plan (the Project Plan).* a. The Department will submit to the NRC, for review and comment, a plan for the solidification of the high-level waste at the Center, the removal of the waste for purposes of its solidification, the preparation of the waste for disposal, and the decontamination of the facilities used in solidifying the waste.

Before the submission of the plan, the Department may consult with the NRC, in person or in writing, with respect to the development of such plan or any issues that may be presented by it, including decisions which the Department proposes to make in accordance with the process contemplated by the National Environmental Policy Act. NRC will respond to a Department request for such consultation, in person or in writing, as the case may be.

b. The Project Plan will contain the level of detail generally associated with conceptual design of structures, systems and components. As the project continues and more precise information is developed, that information will be submitted to the NRC prior to the beginning of project activities for which the information is relevant.

c. The Project Plan will be submitted as soon as practicable prior to major construction or modification of structures, systems and components at the project facilities. The Project Plan will discuss the Department's approach for the conduct of the project by describing what is going to be done and how it will be accomplished, and will include:

(1) A description of what is to be developed, constructed, or used including the major systems or elements of the project and facilities, whether existing, modified, or new.

(2) A description of the status of technology for implementing the project including a description of any ongoing or planned supporting development work upon which the project is dependent.

(3) A description of the specific scientific, technological, or engineering approaches or processes to be used in meeting the project objectives.

(4) A preliminary project schedule and a description of each phase of the project including the work to be accomplished and products developed, including major project events, technical activities, and decision points.

d. Upon submission of the Project Plan to the NRC, the Department will publish in the **Federal Register** a notice of the submission and the plan's availability for public inspection.

e. The NRC will review the Plan and provide written comments to the Department. In preparing its comments, the NRC will specify with precision its objection to any provision of the plan.

f. Upon receipt of Commission comments, the Department will publish in the **Federal Register** a notice of receipt and of the availability of the comments for public inspection.

g. If the Department does not revise the plan to meet objections specified in the Commission's comments, the Department will so notify the Commission and publish in the Federal Register a detailed statement for not so revising the plan.

h. The Department will inform the Commission of significant changes in the plan as the project proceeds.

2. Waste Form and Containers. a. The Department will consult with the NRC with respect to the form in which the high-level radioactive waste at the Center will be solidified and with respect to the containers to be used in the permanent disposal of this waste.

b. As the basis for this consultation, the Department will provide the NRC a description and an analysis of the extent to which the final waste form and container complies with any NRC technical regulations (or proposed regulations) regarding disposal of high-level radioactive waste in geologic repositories.

c. Upon receipt the NRC will review the information and provide written comments and recommendations to the Department. As a basis for its comments and recommendations, the NRC will use any technical criteria issued with respect to the waste form and containers that may be emplaced in geologic repositories that are subject to the licensing jurisdiction of the NRC.

3. Safety Analysis Reports and Other Information. a. Before substantial construction or modification of structures, systems or components, the Department will prepare a safety analysis report (SAR) that will assure that: (1) Potential hazards are systematically identified; (2) potential impacts are analyzed; and (3) reasonable measures to eliminate, control or mitigate the hazards have been taken. The Department will submit the SAR to the NRC for independent review. The SAR will contain design descriptions, safety operating limits, and minimum conditions for operation.

The safety analysis will address in appropriate detail the following topics: (1) A description and evaluation of the project facilities and processes; (2) design criteria for systems, components, and structures; (3) normal and emergency operating procedures to be used; (4) identification of hazards; (5) physical design features and administrative controls provided to prevent or mitigate potential accidents; (6) potential accidents and consequences including those resulting from natural phenomena; (7) operational limitations; and (8) means for controlling effluents and minimizing radiation exposures.

A quality assurance plan and a safeguards and security plan will be prepared by the Department and provided to the NRC with the SAR or in advance of the SAR if they are available earlier.

b. Before solidification of the waste, the Department will provide to the NRC information updating the SAR which will describe the project facilities as actually constructed or modified where such construction or modification does not conform to the description contained in the SAR. The SAR updates will address changes in design, safety operating limits, and minimum conditions for operation and will be similar in form to the SAR.

4. Decontamination and Decommissioning. a. The Department will perform an analysis of impacts and risks of potential disposition modes for the tanks and other facilities of the Center in which the high-level radioactive waste solidified under the project was stored, and facilities, material, and hardware used in connection with the project. The NRC and Department project managers will consult on requirements and disposition modes to be analyzed.

b. Upon receipt of the Department analysis, the NRC will prescribe decontamination and decommissioning (D&D) requirements in accordance with the Act.

c. The Department will prepare a Project Decommissioning Plan which includes a description of engineering and operating activities to be performed. This plan will be reviewed by the NRC and comments provided to the Department. The Department will review and consider the comments provided prior to initiation of D&D operations.

d. The Department will prepare a Site Status Report. The report will provide:

(1) A statement of the D&D requirements prescribed by NRC and an analysis of the extent to which such requirements have been satisfied for those portions of the Center required to be decontaminated and decommissioned by the Act; and

(2) A description of those portions of the Center in the possession of the Department with particular reference to physical and radiological conditions.

5. Monitoring. a. The Department will afford the NRC such access as necessary to monitor project activities to further assure the public health and safety. The NRC will use the descriptions, operating limits, minimum conditions, and technical specifications included in the SAR as the criteria for conduct of its monitoring program.

The monitoring results will be discussed between the respective Project Managers and provided to the Department in the form of a written monitoring report. The Department will inform the NRC in writing of the disposition of such comments upon NRC's request.

b. *Records Examination.* For the purposes of further assuring the public health and safety, the Department will make available to the NRC for examination and copying, upon reasonable notice, records kept by the Department pertaining to the project.

IV. Effective Date

This agreement shall take effect upon the signing by the Deputy Assistant Secretary for Nuclear Waste Management and Fuel Cycle Programs of the U.S. Department of Energy, and the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, and shall continue in effect until revised by mutual agreement unless terminated by either party, for good cause, upon 120 days notice in writing.

For the United States Department of Energy.

Sheldon Meyers,

Dated: September 22, 1981.

For the United States Nuclear Regulatory Commission.

John G. Davis,

Dated: September 23, 1981.

Dated at Silver Spring, Maryland, this 13th day of November, 1981.

For the Nuclear Regulatory Commission.

Leland C. Rouse,

Chief, Advanced Fuel and Spent Fuel Licensing Branch, Division of Fuel Cycle and Material Safety.

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47 FR 16229
Published 4/15/82

Three Mile Island Unit 2; Solid Nuclear Wastes; Revision of a Memorandum of Understanding Between Nuclear Regulatory Commission and Department of Energy

The U.S. Nuclear Regulatory Commission (the Commission) has recently signed the attached revised version of its Memorandum of Understanding with the Department of Energy (the Department) concerning removal and disposition of solid nuclear wastes from cleanup of the Three Mile Unit 2 nuclear plant.

The revised MOU alters the original (46 FR 38614; July 28, 1981) in two areas, the TMI-2 reactor fuel and the makeup and purification system demineralizers. Instead of taking only samples of the damaged fuel, the DOE has now agreed to accept the entire core for R&D and storage at a DOE facility. The terms of ultimate core disposal will be negotiated between DOE and the owner. Additionally, the DOE has agreed to take possession of and retain the highly radioactive purification system resins on a reimbursable basis. This was presented as an option in the original version of the MOU.

Dated at Bethesda, Maryland, this 8th day of April 1982.

For the Nuclear Regulatory Commission.

Bernard J. Snyder,

Program Director, Three Mile Island Program Office, Office of Nuclear Reactor Regulation.

Memorandum of Understanding Between the U.S. Nuclear Regulatory Commission and the U.S. Department of Energy Concerning the Removal and Disposition of Solid Nuclear Wastes from Cleanup of the Three Mile Island Unit 2 Nuclear Plant

I. Objective

This memorandum of understanding specifies interagency procedures for the removal and disposition of nuclear waste resulting from cleanup of the Three Mile Island Unit 2 plant. This will help to ensure that the TMI Site does not become a long-term waster disposal facility.

II. NRC Roles and Responsibilities

The NRC has the responsibility under the Atomic Energy act of 1954 as amended (42 U.S.C. 2011 *et seq.*), to regulate all licensee activities at the TMI-2 site, including waster management, and ensure these activities are carried out in accordance with the requirements of applicable rules and regulations and the requirements of Facility Operating License Number DPR-73, as modified by amendments or orders issued by the NRC. NRC will carry out its responsibilities by onsite observation of licensee activities. As required, policy, and technical support will be provided to the NRC TMI Site Office by NRC Headquarters and Regional Office(s).

NRC will work cooperatively and closely with the DOE, and will keep DOE fully and currently informed of NRC's activities.

NRC will continue to keep public, state and local officials informed of NRC's activities. When appropriate, NRC will involve DOE in these information exchanges with the public, state and local officials.

III. DOE Role and Responsibilities

Where DOE determines that generally beneficial research, development and testing of the TMI-2 accident generated solid wastes can be carried out, DOE will perform such activities at appropriate DOE facilities. For those other wastes that cannot be disposed of in commercial low level waste facilities, DOE may also assume responsibility for removal, storage, and disposal to the extent that the licensee provides reimbursement to the DOE. These activities will be undertaken to the extent consistent with appropriate statutory authority. NRC licensing of DOE facilities that are utilized for storage, processing or disposal of TMI-2 accident generated wastes will not be required since these facilities have primary uses other than for receipt and storage of wastes resulting from licensed activities.

The DOE will provide technical support to the licensee and the NRC as deemed appropriate.

DOE will work closely with the NRC and keep NRC informed of DOE's activities.

IV. Currently Identified TMI-2 Accident Generated Solid Radioactive Wastes

The following lists those TMI-2 accident generated solid radioactive wastes which currently exist or are planned to be generated. This listing may be modified in the future as the cleanup progresses.

1. *EPICOR-II System Wastes.*—Forty-nine ion exchange resin liners with loadings up to 1500 curies/liner are in temporary storage at the TMI-2 site. DOE plans to develop a prototype high integrity container (HIC), production units of which, if utilized by the licensee, may allow these liners to be acceptable for licensed disposal in commercial land burial facilities some 1-2 years from now. DOE is also performing characterization experiments on one of these liners and may find it desirable to extend its R&D program to other liners. Should a more expeditious handling of these wastes be required due to the potential for a limited release to the storage environment (which could cause public concern), a contingency plan will be implemented wherein DOE would at its discretion take receipt of these EPICOR liners on a reimbursable basis from the licensee for storage or disposal. Future EPICOR-II liners are anticipated to be loaded to allow commercial shallow land disposal offsite by the licensee.

2. *Submerged Demineralizer System Wastes.*—It is anticipated that the dispersed radioactivity in accident generated water will be deposited on zeolite in submerged demineralizer system (SDS) liners. Due to the unique character and nature of these wastes, DOE will take possession of and retain these liners to conduct a waste immobilization research and development and testing program.

3. *Reactor Fuel.*—Following removal of the damaged core from the reactor vessel, the entire core will be shipped to a DOE facility to survey and select those portions most appropriate for DOE's R&D program. Information obtained from detailed examinations is expected to be of generic benefit to design, fabrication and operation of reactor cores in a safe and efficient manner for current and future nuclear power plants. The remainder of the core will remain in storage at the DOE facility and will be ultimately disposed of under an agreement to be negotiated between DOE and the owner.

4. *Transuranic Contaminated Waste Materials.*—As the cleanup progresses, some waste materials (e.g., sludges) may be found to be contaminated with transuranics at levels above which commercial low level burial facilities are authorized to accept. Alternatives for such material will be considered on a case-by-case basis and could include archiving, R&D evaluation or temporary storage onsite, or at a DOE facility awaiting further processing and/or disposal in a permanent repository offsite. Depending on the nature of these materials, DOE's activities could either take the form of an R&D program of generic value, or would be subject to reimbursement by the licensee.

5. *Makeup and Purification System Resins and Filters.*—During the TMI-2 accident, the makeup and purification system demineralizer vessels and filters were highly contaminated by letdown of reactor coolant through the system. These resins and filters have not been characterized, however, based on radiation measurements, the resins and filters are believed to have specific activities well in excess of the loadings on the high specific activity EPICOR-II prefilters and are considered unsuitable for commercial land disposal. Due to the generic value of the information to be obtained and the very high specific activities of the filters, DOE will take possession and retain these filters for research and development activities. DOE will also take possession of and retain purification system resins either for an R&D program of generic value or for storage or disposal on a reimbursable basis.

6. *Other Solid Radioactive Wastes.*—The low-level wastes associated with decontamination (e.g., some ion exchange media, booties, gloves, trash) will be disposed of by the licensee in licensed commercial low level burial facilities.

V. This Memorandum of Understanding will take effect when it has been signed by the authorized representative indicated below for each agency. DOE and NRC shall each have the right with the consent of the other party to modify this agreement.

For the U.S. Nuclear Regulatory Commission.

Dated: March 15, 1982.

Bernard J. Snyder,

Program Director, TMI Program Office, Office of Nuclear Reactor Regulations.

For the U.S. Department of Energy.

Dated: March 15, 1982.

Franklin E. Coffman,

Deputy Assistant Secretary for Nuclear Waste Management and Fuel Cycle Programs, Office of Nuclear Energy.

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47 FR 54585
Published 12/3/82

NUCLEAR REGULATORY COMMISSION

DEPARTMENT OF LABOR

Wage and Hour Division

Memorandum of Understanding Between NRC and Department of Labor; Employee Protection

1. Purpose

The U.S. Nuclear Regulatory Commission (NRC) and the Department of Labor (DOL) enter into this agreement to facilitate coordination and cooperation concerning the employee protection provisions of Section 210 of the Energy Reorganization Act of 1974 (Reorganization Act), as amended, 42 U.S.C. 5851.

2. Background

Section 210 of the Reorganization Act prohibits any employer, including a Nuclear Regulatory Commission licensee, applicant or a contractor or subcontractor of a Commission licensee or applicant, from discriminating against any employee with respect to his or her compensation, terms, conditions or privileges of employment because the employee assisted or participated, or is about to assist or participate, in any manner in any action to carry out the purposes of either the Reorganization Act or the Atomic Energy Act of 1954 (Atomic Energy Act), as amended, 42 U.S.C. 2011 *et seq.*

The NRC and DOL have complementary responsibilities in the area of employee protection. DOL has the responsibility under section 210 of the Reorganization Act to investigate employee complaints of discrimination and may, after an investigation and hearing, order a violator to take affirmative action to abate the violation, reinstate the complainant to his or her former position with backpay, and award compensatory damages, including attorney fees. NRC, though without direct authority to provide a remedy to an employee, has independent authority under the Atomic Energy Act to take appropriate enforcement action against Commission licensees that violate the Atomic Energy Act, the Reorganization Act, or Commission requirements. Enforcement action may include license denial, suspension or revocation or the imposition of civil penalties.

Although each agency will carry out its statutory responsibilities independently, the agencies agree that administrative efficiency and sound enforcement policies will be maximized by cooperation and the timely exchange of information in areas of mutual interest.

3. Areas of Cooperation

a. DOL agrees to promptly notify NRC of any complaint filed with DOL alleging discrimination within the meaning of Section 210 of the Energy Reorganization Act. DOL will promptly provide NRC a copy of the complaint, decisions and orders associated with the investigation and any hearing on the complaint.

DOL will also keep NRC currently informed on the status of any judicial proceedings seeking review of an order of the Secretary of Labor issued pursuant to Section 210 of the Reorganization Act.

b. NRC and DOL agree to cooperate with each other to the fullest extent possible in every case of alleged discrimination involving employees of Commission licensees, applicants, or contractors or subcontractors of Commission licensees or applicants. NRC will take all reasonable steps to assist DOL in obtaining access to licensed facilities and any necessary security clearances. Each agency agrees to share and promote access to all information it obtains concerning a particular allegation and, to the extent permitted by law, will protect the confidentiality of information identified as sensitive that has been supplied to it by the other agency.

4. Implementation

The NRC official responsible for implementation of this agreement is the Executive Director for Operations; the DOL official responsible for implementation of this agreement is the Administrator, Wage and Hour Division. Working level point of contacts shall be established and identified within 10 days after the effective date of this agreement for both headquarters and field operations.

5. Amendment and Termination

This Agreement may be amended or modified upon written agreement by both parties to the Agreement. The Agreement may be terminated upon ninety (90) days written notice by either party.

6. Effective Date

This agreement is effective when signed by both parties.

Dated: July 29, 1982.

William J. Dircks,

Executive Director for Operations, Nuclear Regulatory Commission.

Dated: October 25, 1982.

William M. Otter,

Administrator, Wage and Hour Division, Department of Labor.

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47 FR 55444
Published 12/9/82

Memorandum of Understanding Between the Nebraska Department of Environmental Control and the Nuclear Regulatory Commission for In Situ Uranium Mining

The U.S. Nuclear Regulatory Commission (NRC) and the Nebraska Department of Environmental Control have signed a memorandum of understanding for the purpose of providing effective communication and coordination between their respective staffs for the regulation of the concentration of uranium from in situ mining in Nebraska.

The State of Nebraska has authority to regulate the water quality aspects of in situ uranium mining, while the NRC has sole authority for the milling and concentration of source material in Nebraska and concurrent authority over the environmental impacts of in situ uranium mining on groundwater in Nebraska. Under the memorandum, the State and NRC will cooperate in using procedures to minimize duplication of effort, avoid delays in decisionmaking and ensure the exchange of needed information during the regulatory process for in situ uranium mining.

The memorandum of understanding became effective when signed by the Director, Nebraska Department of Environmental Control, on November 10, 1982. The text is published below.

For further information contact: Robert J. Doda, telephone 817/860-8139, Region IV, U.S. Nuclear Regulatory Commission, 611 Ryan Plaza Drive, Suite 1000, Arlington, Texas 76011.

Dated at Arlington, Tex., this 30th day of November 1982.

For the Nuclear Regulatory Commission.

John T. Collins,

Regional Administrator, Region IV.

Memorandum of Understanding Between the Nebraska Department of Environmental Control and the U.S. Nuclear Regulatory Commission for In situ Uranium Mining

Whereas, the State of Nebraska, through the Department of Health, and by virtue of Neb. Rev. Stat. § 71–3510 (Reissue 976) is an Agreement State with the U.S. Nuclear Regulatory Commission; and

Whereas, the U.S. Nuclear Regulatory Commission (NRC) has, at the request of the Governor of the State of Nebraska, reasserted its authority over the milling of uranium and the concentration of uranium from in situ mining in the State of Nebraska; and

Whereas, the NRC has the sole authority to issue licenses for the milling and concentration of source material in Nebraska by virtue of the Atomic Energy Act of 1954, as amended, 68 Stat. 923, and concurrent authority over the environmental impacts of in situ uranium mining on groundwater; and

Whereas, the Nebraska Department of Environmental Control (NDEC), pursuant to Neb. Rev. Stat. § 81–1505(9) (Supp. 1981) and the Federal Safe Drinking Water Act (42 U.S.C. 300(f) et seq.) has adopted Regulations Governing Underground Injection Control in Nebraska effective February 16, 1982, with authority to regulate the water quality aspects of in situ uranium mining in Nebraska.

Now, therefore, it is agreed by and between the NRC and NDEC, as follows:

1. In order to help avoid duplication of effort by the regulatory agencies and the applicant, both agencies agree that effective communication and coordination shall be maintained at the staff level between them and that there shall be prompt and efficient concurrent licensing and permit review for in situ uranium mining. Each agency will bear its own costs of review and permitting provided, however, that the NRC may, in its discretion, utilize the services of the State agency in the NRC's licensing process under an agreement pursuant to Section 274i of the Atomic Energy Act.

2. NRC and NDEC shall consult and coordinate on conditions of any permit or license including sureties pertaining to groundwater restoration and surface decontamination and reclamation.

3. If either party concludes that a meeting between the respective staffs of each agency is necessary, both parties shall cooperate in arranging such a meeting as soon as possible.

4. When a public hearing is determined to be necessary by NRC or NDEC on its license or permit, the other will be given written notice and opportunity to participate according to the established rules of the agency holding the hearing.

5. All information received will be shared between the technical staffs of the agencies and the applicant shall be required to furnish copies of its application and supporting information to each party, unless some information is relevant to one of the agencies only. Sharing of information pertaining to pending enforcement actions and investigations will be determined on a case-by-case basis.

6. The principal NDEC contact under this memorandum shall be the Director of the Department of Environmental Control or his authorized representative. The principal NRC contact under this memorandum shall be the Director, Uranium Recovery Field Office, Denver, Colorado.

7. This memorandum of understanding shall take effect immediately upon signing by the State and the Regional Administrator, Region IV, U.S. Nuclear Regulatory Commission, and may be terminated upon thirty (30) days written notice by either party.

For the Nebraska Department of Environmental Control.

Dan T. Drain,
Director.

Dated at Lincoln, Nebr., this 10th day of November 1982.

For the United States Nuclear Regulatory Commission.

John T. Collins, *Regional Administrator, Region IV.*

Dated at Arlington, Tex., this 8th day of November 1982.

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48 FR 38358
Published 8/23/83

Memorandum of Understanding Concerning Public Information

The Memorandum of Understanding published below establishes a framework for cooperation and coordination in the area of emergency public information among the following parties:

Washington Public Power Supply System (Supply System)
State of Washington
Benton and Franklin Counties, Washington
Nuclear Regulatory Commission (NRC)
Federal Emergency Management Agency (FEMA)

It outlines the manner in which the parties will cooperate in the dissemination of emergency information to the news media concerning a radiological emergency at the Washington Public Power Supply System's Nuclear Power Plants 1 and 2. It does not address emergency warning systems (i.e., direct notification of the public via the Emergency Broadcast System or otherwise) which are addressed in the Emergency Plans of various parties.

For further information contact: James G. Hanchett, Public Affairs Officer, Telephone 415–943–3712, U.S. Nuclear Regulatory Commission, Region V, 1450 Maria Lane, Suite 210, Walnut Creek, California 94596.

Dated at Walnut Creek, California this 12th day of August, 1983.

For the Nuclear Regulatory Commission.

B. H. Faulkenberry,
Acting Regional Administrator.

Memorandum of Understanding Among State of Washington, Benton-Franklin Counties, Washington; Washington Public Power Supply System, U.S. Nuclear Regulatory Commission, and Federal Emergency Management Agency: Public Information

1. Background and Purpose

Protection of the public health and safety in the event of a radiological emergency at the Washington Public Power Supply System's Nuclear Power Plants 1 and 2 imposes upon the utility operator and local, state, and federal government agencies the responsibility to provide complete, accurate, timely, and understandable information to the public. In the absence of an effective public information program during an emergency, unfounded rumors proliferate, public alarm is increased, confidence in government agencies is eroded, and the overall effectiveness of emergency response is diminished.

An effective emergency public information program requires cooperation by and advance planning among potential emergency response organizations. Recognizing the unique and separate responsibilities and jurisdictions of the organizations involved in radiological emergency response, the planning for emergency public information must emphasize inter-agency coperation and coordination.

This memorandum of understanding establishes a framework for cooperation and coordination in the area of emergency public information among the following parties:

Washington Public Power Supply System (Supply System)
State of Washington
Benton and Franklin Counties, Washington
Nuclear Regulatory Commission (NRC)
Federal Emergency Management AGency (FEMA)

2. Scope

This memorandum of understanding defines the manner in which the parties will cooperate in the dissemination of emergency information to the news media concerning a radiological emergency at the Washington Public Power Supply System's Nuclear Power Plants 1 and 2. It does not address emergency warning systems (i.e., direct notification of the public via the Emergency Broadcast System, or otherwise), which are addressed in the Emergency Plans of various parties.

3. Coordination of Emergency Public Information

In the event of a radiological emergency at the Washington Public Power Supply System's Nuclear Power Plants 1 and 2, classified as an Alert, Site Area Emergency, or General Emergency, the parties to this agreement will coordinate their respective public information programs and cooperate to the maximum degree feasible to assure that the news media and the public are provided with complete, accurate, timely, and understandable information about the nature of actions by the individual organizations.

Specifically, the parties agree as follows:

a. Each party agrees to keep the other parties fully and currently informed concerning information released to the news media. To the extent possible, each party will endeavor to notify the others in advance concerning the text or general outline of information to be released.

b. Each party agrees to focus its public information releases and public statements on those matters within the scope of its jurisdiction and responsibility. To the extent possible, news media inquiries should be directed to the appropriate response agency for reply unless subsequent agreements among the parties provide for a pooling of resources.

c. To the extent possible, each party will release official public information to the news media through a designated spokesperson, normally a responsible senior official with decision-making authority or his/her designee; e.g., a public information officer.

d. When regional response teams from NRC Region V and FEMA Region X are en route to the Supply System's site, public information releases, about the nature of the emergency and the federal response will be made from the NRC and FEMA Headquarters offices, as appropriate. When the regional response teams arrive on site and the Joint Information Center is established, the NRC and FEMA Headquarters offices will begin referring media inquiries to the Joint Information Center and will coordinate any official statements with the Joint Information Center, as provided in Item e.

e. When a Joint Information Center is established, the parties agree to release all official public information through this facility, either directly or simultaneously with its release from some other location; e.g., a state EOC or the NRC and FEMA Headquarters offices

f. When the Joint Information Center is established, the news media will be notified that, for the duration of the emergency, official public information and press briefings from the signatory agencies to this agreement will be released from the Joint Information Center.

g. When the Joint Information Center is established, each party will refer news media inquiries to the Joint Information Center or each party's official spokesperson, as appropriate.

h. While reaffirming the intent to provide public information from a single platform, extreme circumstances may preclude that, and nothing in this agreement shall limit the authority of any party to publicly and separately release any information that it believes is within the scope of its jurisdiction and responsibility and that it believes is complete, accurate and timely. In the event of separate release by a party to this agreement, the party agrees to provide the Joint Information Center with a copy of the material before or simultaneously with its release.

i. Within the limits of its manpower and priorities, each party agrees to provide public information assistance to other parties, as needed, toward the common goal of protecting the public health and safety.

j. The Washington Public Power Supply System agrees to provide the physical location, communications and reproduction equipment, furniture, supplies, and administrative services for the support of all parties operating from the Joint Information Center.

k. The Washington Public Power Supply System will develop procedures for partial activation of the Joint Information Center within one hour after declaration of a Site Area Emergency or General Emergency and complete activation within two hours.

l. The Joint Information Center shall be equipped with dedicated telephone lines between the center, the licensee's near-site emergency operations facility, the Washington EOC, and the Benton-Franklin County EOC, including capability for live broadcast to the Joint Information Center from these locations.

m. The Joint Information Center will be staffed by public information representatives from the Washington Public Power Supply System, the Nuclear Regulatory Commission, the Federal Emergency Management Agency, the state of Washington, and other parties as personnel and priorities permit.

n. Each party agrees to provide current copies of its emergency public information plan and procedures to the other parties.

This agreement will become effective upon signature and continue until cancelled by any party upon written notice to the others. Amendments or modifications to this agreement may be made upon written agreement by all parties to the agreement.

The parties hereto executed this agreement this 24th day of February 1983.

May 6, 1983 Governor John Spellman, *State of Washington*. April 5, 1983. J. B. Martin, *U.S. Nuclear Regulatory Commission*. March 25, 1983. William H. Mayer, *Regional Director, Federal Emergency Management Agency, Region X*. February 28, 1983. W. H. Sebero, *Benton County, Washington*. February 28, 1983. Chet Bailie, *Franklin County, Washington*. March 21, 1983. Robert L. Ferguson, *Managing Director, Washington Public Power Supply System*.

Approved as to Form. Kevin M. Ryan, *Assistant Attorney General, Washington State*.

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48 FR 49562

Published 10/26/83

Comments are due 11/30/83

Request for Comments on Proposed 274i and Memorandum of Understanding for States Participating in Low-Level Waste Compacts

AGENCY: Nuclear Regulatory Commission.

ACTION: Publication of 274i. Memorandum of Understanding for Public Comment.

SUMMARY: On December 22, 1980, Congress enacted the Low-Level Radioactive Waste Policy Act of 1980 (Pub. L. 96–573), which makes each State responsible for providing for the availability of disposal capacity for commercial low-level radioactive wastes generated within its borders. The Act also states that low-level waste can be most safely and efficiently managed on a regional basis, and encourages the formation of interstate compacts.

In the process of maintaining safe and effective waste handling techniques within their regions some States feel they need to inspect waste generators for compliance with packaging and shipping requirements to effectively carry out their responsibilities under Pub. L. 96–573. On-side inspection of certain NRC licenses can be satisfactorily included in a State inspection program under a Memorandum of Understanding (MOU), between NRC and each of the States in the compact. NRC has the authority to enter into such MOUs with States under Section 274i. of the Atomic Energy Act of 1954, as amended. Section 274i. MOUs differ from agreements entered into between NRC and a State under the "Agreement State" regulatory program; the latter is accomplished only by entering into an agreement under Section 274b. of the Atomic Energy act. A 274i. MOU can be entered into by a State whether or not it has a 274b. agreement.

The proposed MOU, shown below, would authorize a State to inspect waste packaging on the premises of certain NRC licenses. State enforcement based on findings from these inspections would be under State law, not the Atomic Energy Act; however, States would notify the NRC of any violations.

Because the MOU affects NRC licenses and we anticipate that some States will seek it, NRC is publishing this MOU for public comment. While individual MOUs might differ slightly in detail, the NRC does not intend to publish them for further comment.

The Commission has found that a review of license procedures for quality assurance, packaging, marking, labeling, and loading of vehicles is usually adequate for its inspection program regarding packaging and shipping supplemented by on-site inspections during regularly scheduled inspections. While the Commission does not normally conduct inspections of individual low-level waste shipments, it wishes to encourage the goals of the compacts and to make it possible for the inspections to be carried out by the compact States. The Commission will make no preevaluation of the State's ability to carry out such a program nor will it conduct any implementation review process to determine the effectiveness of the States' programs.

DATE: Comments are due by November 30, 1983.

ADDRESSES: Written comments should be addressed to Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Comments can be examined at the Public Document Room at 1717 H Street, NW, Washington, D.C.

FOR FURTHER INFORMATION CONTACT: Mindy Landau, Office of State Programs, U.S. Nuclear Regulatory Commission, Wasington, DC 20555, (Telephone: (301) 492–9880).

Dated at Bethesda, MD this 21st day of September 1983

For the U.S. Nuclear Regulatory Commission.

G. Wayne Kerr,

Director, Office of State Programs.

Proposed 274i. Memorandum of Understanding

The State of ——— (State) is a member of the ——— Compact which was ratified by Congress on ——— pursuant to the Low-Level Radioactive Waste Policy Act, (Waste Policy Act) P.L. 96–573. The Waste Policy Act was enacted by Congress to provide for and encourage States to manage low-level radioactive waste on a regional basis, and to this end authorizes States to enter into such compacts as may be necessary to provide for the establishment and operation of regional disposal facilities for low-level radioactive waste. The ——— Compact contemplates that the State will make periodic unannounced inspections of the premises of low-level radioactive waste packaging and transport activities and areas of generators located within its borders if shipments of such waste are destined for a low-level waste facility located in a Compact State.

The United States Nuclear Regulatory Commission (NRC or Commission) has the statutory responsibility to inspect its licensees to determine compliance with NRC requirements, including requirements pertaining to the shipment, packaging and transportation of low-level radioactive waste. In the exercise of this responsibility, the Commission regularly conducts a review of the transportation programs of its licensees including the licensees' procedures for quality assurance, packaging, marking, labeling and loading of vehicles. This transportation program review usually has been found adequate to ensure licensee compliance with the Commission's regulations regarding low-level radioactive waste packaging and transportation without the need for Commission inspection of each individual shipment.

Under Section 274i. of the Atomic Energy Act of 1954, as amended, the Commission in carrying out its licensing and regulatory responsibilities under the Act is authorized to enter into Memoranda of Understanding (agreements) with any State to perform inspections or other functions on a cooperative basis as the Commission deems appropriate. While the Commission does not normally conduct on-site inspections of individual low-level waste shipments of its licensees, it desires to foster the goals of the Waste Policy Act and the ——— Compact.

Accordingly, this Memorandum of Understanding between the State of ——— and the NRC establishes mutually agreeable procedures whereby the State may perform inspection functions for and on behalf of the Commission at certain NRC reactor and materials licensees' facilities which generate low-level radioacive waste.

It is hereby agreed between the Commission and the State as follows:

1. The Commission hereby authorizes the State to perform, for and on behalf of the Commission, the following functions with respect to low-level radioactive waste, as defined in Section 2(2) of the Waste Policy Act, in the possession of Commission licensees located within the State:

(a) Inspections to determine compliance with the Commission's rules and regulations regarding the packaging and transportation of low-level waste destined for disposal at a commercial low-level radioactive waste disposal site, and

(b) Notification of Commission licensees and the Commission in writing of any violation of Commission regulations disclosed by such inspections, and to request the licensees concerned to advise the State and the Commission of corrective action taken or to be taken.

The Commission will not evaluate the State's ability to perform such functions. Such functions as are performed by the State pursuant hereto shall be performed without cost or expense to the Commission.

2. The authority to inspect NRC licensees pursuant to the preceding paragraph is limited to the licensee's low-level waste packaging, packaging procedures, and transport vehicles.

3. In taking any action authorized hereunder, the State shall not undertake to amend or revoke Commission licenses. This Memorandum, however, shall not be construed to preclude the State from exercising any authority lawfully available to it under its own laws.

4. Efforts will be made by both parties to avoid duplicative enforcement action against an NRC licensee for the same violation. However, this is not meant to preclude appropriate complementary actions for the same violation, such as termination of a user permit by the State and NRC enforcement action.

5. Nothing herein shall be deemed to authorize the State to inspect or otherwise enter the premises of any licensee of the Commission which is a Federal instrumentality without the prior consent of the licensee.

6. Nothing herein shall be deemed to preclude or affect in any manner the authority of the Commission to perform any or all of the functions described herein.

7. Nothing herein is intended to restrict or expand the statutory authority of NRC or the State or to affect or vary the terms of any agreement in effect under the authority of Section 274b. of the Atomic Energy Act of 1954, as amended.

8. Nothing herein shall be deemed to permit the State to impose packaging or transport standards beyond those contained in Federal standards.

9. The principal NRC contact under this Memorandum of Understanding shall be ———, the principal State contact shall be ———.

10. This MOU shall become effective upon signing by the ———, State of, ——— and ———, Nuclear Regulatory Commission and shall remain in effect so long as the State remains a member of the ——— Compact unless sooner terminated by either party on thirty days, prior written notice.

For the Nuclear Regulatory Commission.

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Regional Administrator
For the State of ______________________

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48 FR 51875
Published 11/14/83

Spent Fuel and High-Level Waste Transportation Packaging; NRC/DOE Procedural Agreement

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of NRC/DOE procedural agreement.

SUMMARY: The Nuclear Regulatory Commission and the Department of Energy have signed a Procedural Agreement concerning planning assumptions and procedures that the Nuclear Regulatory Commission and the Department of Energy will observe in connection with the development of

transportation packaging under the provisions of the Nuclear Waste Policy Act of 1982. The text of this agreement is published below.

FOR FURTHER INFORMATION CONTACT: Mr. Richard E. Cunningham, Director, Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety and Safeguards, Nuclear Regulatory Commission, MS 396 SS, Washington, DC 20555; (301) 427–4485.

Dated at Silver Spring, Maryland, this 4th day of November 1983.

For the Nuclear Regulatory Commission.

Donald R. Chapell,

Deputy Director, Division of Fuel Cycle and Material Safety.

Procedural Agreement Between NRC and DOE Concerning Certification of Spent Fuel and High Level Waste Transportation Packaging Under NWPA

This Agreement establishes common planning assumptions and outlines procedures which the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE) will observe in connection with the development of transportation packaging (packaging) to be used for transportation of spent fuel and high-level waste under the provisions of the Nuclear Waste Policy Act of 1982 (NWPA). In this agreement, transportation refers to the physical movement of spent fuel and high level waste to a geologic repository, a test and evaluation facility, a monitored retrievable storage (MRS) facility, or an interim storage facility. The purpose of this agreement is to: (1) Define the principal policy assumptions which will be used by each agency for planning purposes; (2) assure adequate procedures for consultation and exchange of information; (3) assure that DOE and NRC exchange adequate information about plans for and results from the design, development, and testing programs and certification requirements for packaging related to this agreement; and (4) establish a coordination framework for transportation related activities covered by this agreement.

1. *NRC Approval of Packaging.* Pursuant to the Hazardous Materials Regulations of the Department of Transportation (DOT), all persons other than DOE (and the Department of Defense under certain circumstances) who ship high level radioactive waste or spent nuclear fuel must ship such materials in NRC-certified packaging.

Pursuant to the DOT regulations (49 CFR Section 173.7(d)), DOE certifies its packaging for radioactive materials against standards that are equivalent to 10 CFR Part 71. However, in light of the NWPA provisions regarding nuclear fuel under the NWPA interim storage program (Section 137(a)), and taking into account the commercial source of materials being transported to other NWPA facilities, DOE plans to use packaging that has been approved by NRC in accordance with 10 CFR Part 71 (rather than DOE-certified packaging) for DOE shipments performed under the NWPA from NRC-licensed facilities to an NRC-licensed repository, MRS or interim storage facility. While DOE recognizes that it may need to re-examine this intent, if it appears that such packaging will not be available or if it cannot accomplish its mandate under NWPA using NRC-certified packaging, it believes that all affected parties should maximize the use of NRC-certified packaging in this commercial related program.

2. *Basis for Regulations.* DOE will provide, to the extent practicable, information which would be of assistance in providing sound technical bases for regulations. NRC will exert its best efforts to continue to provide stable regulations which have a sound technical basis for the orderly design and development of packaging.

3. *Packaging Designs.* DOE will inform NRC of and coordinate with it packaging design, development, and testing activities at an early stage and periodically thereafter as progress is made. NRC, in turn, will inform DOE of potential issues related to certification of packaging of a specific design. Both agencies will exert best efforts to resolve the issues.

4. *Schedules.* Within 180 days of the date of this agreement DOE will develop, in coordination with NRC, projected schedules for the design and testing of packaging. DOE and NRC will develop schedules for timely decisions on certification of packaging and will define to the extent practicable major milestones related to these objectives.

5. *Meetings.* NRC and DOE will schedule and conduct periodic meetings to review information and discuss and resolve issues related to packaging design, testing and certification, and other matters of mutual interest under the scope of this agreement. A written report agreed to by both NRC and DOE will be prepared for each meeting.

a. Technical meetings will be held between NRC and DOE staff to assess the feasibility and utility of development projects in meeting packaging safety and certification objectives. Unresolved issues will be elevated promptly to management for resolution.

b. Periodic management meetings will be held, as necessary, to review the status of the program; to discuss regulatory concerns and issues; and to consult on policy matters.

6. *Limitations.* (a) Nothing in this agreement is intended to limit or expand the responsibility or authority of either DOE or NRC as established by law.

(b) This agreement is limited to matters of health and safety incident to packaging. Other matters, including design features related to the storage or disposal, or other use of packaging after transport will be managed under applicable regulations and agreements.

(c) This agreement is intended to facilitate the effective discharge by NRC and DOE of their respective responsibilities and shall not be construed to give rise to any private rights of action.

(d) Nothing in this agreement limits informal consultation not mentioned in this agreement.

Dated: November 3, 1983.

Robert L. Morgan,

Project Director, Nuclear Waste Policy Act Project Office, U.S. Department of Energy.

Dated: October 26, 1983.

John G. Davis,

Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission.

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49 FR 20586
Published 5/15/84

Memorandum of Understanding (MOU) Between U.S. NRC and the State of Illinois

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Publication of Memorandum of Understanding (MOU) between U.S. NRC and the State of Illinois.

SUMMARY: Section 274i. of the Atomic Energy Act of 1954, as amended, allows the Commission to enter into agreements with the States "to perform inspections or other functions on a cooperative basis as the Commission deems appropriate." Section 274i. MOUs differ from agreements entered into between NRC and a State under the "Agreement State" program; the latter is accomplished only by entering into an agreement under section 274b. of the Atomic Energy Act. A 274i. MOU can be entered into by a State whether or not it has a 274b. agreement.

This MOU, signed by the NRC and the State of Illinois, provides principles of cooperation between the State and NRC in areas of concern to the State.

The MOU provides the basis for detailed subagreements in areas such as low-level radioactive waste treatment, storage and disposal, emergency preparedness, nuclear facility siting and operation, and decommissioning of nuclear facilities.

Under MOU, the State and NRC have committed to consult regularly and cooperate in devising procedures to minimize duplication of effort and avoid delays in decisionmaking.

Broad agreements such as this have been entered into by other States in the past: Washington (9/78), Oregon (1/80), Indiana (11/78), and New York (3/78).

FOR FURTHER INFORMATION CONTACT: Mindy Landau, Office of State Programs, U.S. NRC, Washington, DC 20555, (Telephone (301) 492–9880).

Dated at Bethesda, MD this 4th day of May, 1984.

For the U.S. Nuclear Regulatory Commission.

G. Wayne Kerr,

Director, Office of State Programs.

Memorandum of Understanding Between the State of Illinois and the U.S. Nuclear Regulatory Commission

This Memorandum of Understanding between the State of Illinois (hereafter "State") and the U.S. Nuclear Regulatory Commission (hereafter "NRC") expresses the desire of the parties to cooperate in the regulation of nuclear activities, it sets forth mutually agreeable principles of cooperation between the State and NRC in areas subject to the jurisdiction of the State or the NRC or both. This agreement is intended to provide the basis of subsequent detailed subagreements between the parties.

Close cooperation between the signatories will help assure that the goals and policies of State and Federal law will be carried out efficiently and expeditiously without diminishing the responsibilities or authorities of either party.

With the execution of the Memorandum, the State and NRC agree regularly to consult and cooperate in exploring and devising appropriate procedures to minimize duplication of effort to the extent permitted by State and Federal law, to avoid delays in decisionmaking and to ensure the exchange of information that is needed to make the most effective use of the resources of the State and NRC in order to accomplish the purpose of both parties.

Principles of Cooperation

1. The State and NRC agree to explore together the development of detailed subagreements in areas of mutual concern, including siting of nuclear facilities;[*] water quality; confirmatory radiological and environmental monitoring around nuclear facilities; decommissioning of nuclear facilities; emergency preparedness planning; response to radiological incidents; security planning; personnel training and exchange; low-level radioactive waste packaging, treatment, storage and transport; transport of irradiated fuel; and radioactive material transportation monitoring.

2. Subagreements under this Memorandum may provide for activities to be perfomed by either party under mutually acceptable guidelines and criteria which assure that the needs of both are met. For activities performed by one party at the request of the other party under specific subagreements to this Memoradum, either party may explore means by which compensation can be made available to the other party or by which the costs may be shared by the parties.

3. NRC agrees to explore with the State the possibility of sharing with the State proprietary and other information in NRC's possession that is exempt from mandatory public disclosure.

4. Nothing in this Memorandum is intended to restrict or extend the constitutional or statutory authority of either NRC or the State or to affect or vary the terms of a future agreement between the State and NRC under Section 274b of the Atomic Energy Act of 1954, as amended.

5. The principal NRC contact under this Memoranum shall be the Director of the Office of State Programs. The principal State contact shall be the Director of the Illinois Department of Nuclear Safety or his or her designee. Subagreements will name appropriate individuals, agencies or offices as contacts.

6. This Memorandum shall take effect upon signing by the Governor of the State of Illinois and the Chairman of the Nuclear Regulatory Commission, and may be terminated upon 30 days written notice by either party.

For the State of Illinois.

James R. Thompson,

Governor.

Dated at Springfield, IL, this 27th day of April, 1984.

For the United States Nuclear Regulatory Commission.

Nunzio J. Palladino,

Chairman.

Dated at Washington, D.C. this 13th day of April, 1984.

49 FR 27861
Published 7/6/84

Publication of Subagreement No. 1 Between U.S. NRC and the Illinois Department of Nuclear Safety

SUMMARY: Section 274i. of the Atomic Energy Act of 1954, as amended, allows the Commission to enter into agreements with the States "to perform inspections or other functions on a cooperative basis as the Commission deems appropriate." Section 274i MOUs differ from agreements entered into between NRC and a State under the "Agreement State" program; the latter is accomplished only by entering into an agreement under Section 274b. of the Atomic Energy Act. A 274i. MOU can be entered into by a State whether or not it has a 274b. agreement.

In April of 1984, an "umbrella" MOU was signed by the NRC and the State of Illinois, providing principles of cooperation between the State and NRC in areas of concern to the State.

Subagreement #1 provides the basis for mutually agreeable procedures whereby the State may perform inspection functions for and on behalf of the Commission at certain reactor and materials licensees' facilities which generate low-level radioactive waste.

FOR FURTHER INFORMATION CONTACT: Roland Lickus, Director, State and Government Affairs, U.S. NRC, Region 111, 799 Roosevelt Road, Glen Ellyn, Illinois 60137 (Telephone 312/790–5666).

Dated at Glen Ellyn, IL this 15th day of June 1984.

For the U.S. Nuclear Regulatory Commission.

R. L. Spessard,

Acting Regional Administrator.

Subagreement 1 Pertaining to Low-Level Radioactive Waste Inspection Between the State of Illinois and the U.S. Nuclear Regulatory Commission

The State of Illinois, in fulfilling its obligations under the Low-Level Radioactive Waste Policy Act (Waste Policy Act) Pub. L. 96–573, contemplates that it will make periodic inspections of the areas of low-level radioactive waste packaging and transport activities and premises of generators located within its borders if shipments of such waste are destined for low-level waste disposal facility.

The United States Nuclear Regulatory Commission (NRC or Commission) has the statutory responsibility to inspect its licensees to determine compliance with NRC requirements, including requirements pertaining to the shipment, packaging and transportation of low-level radioactive waste. In the exercise of this responsibility, the Commission regularly conducts a review of the transportation programs of its licensees including the licensees' procedures for quality assurance, packaging, marking, labeling and loading of vehicles. This transportation program review usually has been found adequate to ensure licensee compliance with the Commission's regulations regarding low-level radioactive waste packaging and transportation without the need for Commission inspection of each individual shipment.

Under Section 274i. of the Atomic Energy Act of 1954, as amended, the Commission in carrying out its licensing and regulatory responsibilities under the Act is authorized to enter into Memoranda of Understanding (agreements) with any State to perform inspections or other functios on a cooperative basis as the Commission deems appropriate. While the

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[*] For the purpose of this Memorandum of Understanding, the term nuclear facilities is defined to include the following plants or facilities within Illinois to the extent that these facilities are not covered by a future NRC-State agreement referenced in paragraph 4:

a. Nuclear power, research, and test facilities, and associated facilities;

b. Nuclear fuel reprocessing facilities;

c. Uranium isotope enrichment facilities;

d. Nuclear fuel fabrication plants;

e. Nuclear waste treatment, storage, and disposal plants;

f. Uranium milling plants and uranium mill trailings; and

g. Uranium hexafluoride conversion plants.

Commission does not conduct on-site inspections of every low-level waste shipment of its licensees, it desires to foster the goals of the Waste Policy Act and the State of Illinois.

Accordingly, this Memorandum of Understanding between the State of Illinois and the NRC establishes mutually agreeable procedures whereby the State may perform inspection functions for and on behalf of the Commission at certain NRC reactor and materials licensees' facilities which generate low-level radioactive waste.

It is hereby agreed between the Commission and the State as follows:

1. The Commission hereby authorizes the State to perform, for and on behalf of the commission, the following functions with respect to low-level radioactive waste, as defined in Section 2(16) of the Nuclear Waste Policy Act of 1982, in the possession of Commission licensees located within the State:

(a) Inspections to determine compliance with the Commission's rules and regulations regarding the packaging and transportation of low-level waste destined for disposal at a commercial low-level radioactive waste disposal site, and

(b) Notification of Commission licensees and the Commmission in writing of any violation of Commission regulations disclosed by such inspections. All enforcement action pursuant to this Subagreement resulting from such inspections will be undertaken by the Commission.

The Commission does not normally evaluate the State's ability to perform such functions, however, the State agrees to utilize personnel knowledgeable in radiation safety, waste packaging requirements and packaging and transportation regulations. Such functions as are performed by the State pursuant to hereto shall be performed without cost or expense to the Commission, except for situations where NRC finds it appropriate to provide training to the State.

2. The authority to inspect NRC licensees pursuant to the preceding paragraph is limited to the licensee's low-level waste packaging and transportation procedures.

3. In taking any action authorized hereunder, the State shall not undertake to amend or revoke Commission licenses. This Memorandum, however, shall not be construed to preclude the State from exercising any authority lawfully available to it under its own laws.

4. Efforts will be made by both parties to avoid duplicative enforcement action against an NRC licensee for the same violation. However, this is not meant to preclude appropriate complementary actions for the same violation, such as termination of a user permit by the State and NRC enforcement action.

5. Nothing herein shall be deemed to authorize the State to inspect or otherwise enter the premises of any licensee of the Commission which is a Federal instrumentality without the prior consent of licensee.

6. Nothing herein shall be deemed to preclude or affect in any manner the authority of the Commission to perform any or all of the functions described herein.

7. Nothing herein is intended to restrict or expand the statutory authority of NRC or the State or to affect or vary the terms of any agreement in effect under the authority of Section 274b. of the Atomic Energy Act of 1954, as amended.

8. Nothing herein shall be deemed to permit the State to impose packaging or transport standards beyond those contained in Federal regulations.

9. The principal NRC contact under this Memorandum of Understanding shall be the Emergency Preparedenss and and Radiological Safety Branch Chief for reactor licensees and the Materials and Safeguards Branch Chief or materials licensees. The principal State contact shall be the Manager, Office of Waste and Transportation Management.

10. This MOU shall become effective upon signing by the Director, Department of Nuclear Safety, State of Illinois, and the Regional Administrator, Region III, Nuclear Regulatory Commission and shall remain in effect permanently unless terminated by either party on thirty days prior written notice.

Date this 7th day of June 1984 at Glen Ellyn, IL.

James G. Keppler,

Regional Administrator.

For the State of Illinois:

Don Etchison.

Dated this 11th day of June 1984 at Springfield, IL.

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50 FR 14782
Published 4/15/85

Publication of Subagreement No. 3 Between the U.S. NRC and the Washington State Energy Facility Site Evaluation Council

AGENCY: Nuclear Regulatory Commission.

ACTION: Publication of Subagreement No. 3 Between the U.S. NRC and the Washington State Energy Facility Site Evaluation Council [1].

SUMMARY: On September 3, 1978, an "unbrella" memorandum of understanding was signed by the NRC and the State of Washington, providing principles of cooperation between the State and NRC is areas of concern to the State.

Subagreement No. 3 identifies specific areas of information exchange and cooperation which are mutually acceptable to the State of Washington, its agent the Energy Facility Site Evaluation Council (EFSEC), and the United States Nuclear Regulatory Commission.

FOR FURTHER INFORMATION CONTACT: Dean Kunihiro, Region V, U.S. Nuclear Regulatory Commission, 1450 Maria Lane, 210, Walnut creek, California 94596, (Telephone: (415) 943–3714).

Dated at Walnut Creek, CA this 10th day of Arpil, 1985.

For the U.S. Nuclear Regulatory Commission.

John B. Martin,

Regional Administrator.

Subagreement 3 Between the United States Nuclear Regulatory Commission and the Washington State Energy Facility Site Evaluation Council Regarding the Inspection and Operation of Nuclear Powered Steam Electric Generating Stations Located in the State of Washington

This Subagreement is promulgated under the provisions of the Memorandum of Agreement between the state of Washington and the United States Nuclear Regulatory Commission, dated September 6, 1978.

Purpose

The objective of this Subagreement is the establishment of a procedure mutually acceptable to the State of Washington (hereafter "State"), its agent the Energy Facility Site Evaluation Council (EFSEC), and the United States Nuclear Regulatory Commission (hereafter NRC) for the exchange of information concerning maintenance, engineering, quality assurance, security, emergency planning and operation of nuclear powered steam electric generating stations located in the State of Washington.

It is the intent of this Subagreement that cooperative efforts should enhance understanding, reduce duplication of effort and provide wherever possible a unified position on matters of joint concern.

Implementation

1. The NRC conducts its inspection program through resident inspectors and special inspections originating from Region V, Walnut Creek, California, and NRC Headquarters, Washington, D.C. EFSEC conducts its inspection through

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[1] The Nuclear Regulatory Commission published this notice in the Federal Register of March 28, 1985 (50 FR 11982), but inadvertantly ommitted the attachment. This notice includes the complete text.

Council members and staff and agency inspectors operating under interagency agreements.

2. EFSEC and NRC agree to the greatest extent possible and in good faith to provide the other party with information relative to the spirit of this Memorandum.

3. EFSEC and NRC agree to meet at the call of either party at mutually agreeable times and places to exchange information on matters of common concern. Regardless of intervening meetings the parties agree to meet annually to keep each other apprised of planned activity for the ensuing year.

4. The EFSEC inspectors will not duplicate the regulatory activities of the NRC. To the extent possible EFSEC inspectors will coordinate their schedules and inspection activities with NRC so that their on-site activities avoid interruption to normal plant operations and maintenance.

5. EFSEC agrees to share with NRC information relative to its water chemistry, radiological, industrial safety and environmental monitoring programs. Consistent with requirements to protect confidential, proprietary, predecisional, and safeguards information, NRC agrees to share with EFSEC information relative to its plant construction and operation, radiological, health and safety monitoring programs. Each agency agrees to be sensitive to the needs of the other when designing its respective monitoring programs.

6. To the extent practicable EFSEC inspectors may observe NRC audits, reviews, inspections, drills and meetings. In the same way, the NRC inspectors may observe EFSEC audits, reviews, inspections, drills and meetings. The parties recognize that there will be occasions when, because of the sensitive nature of certain meetings, it may be necessary for the parties to conduct their activities privately and separately.

7. The parties agree as a routine procedure to provide the other party with information copies of inspection reports and final enforcement actions conducted under the authority of either party.

8. EFSEC and NRC agree to work cooperatively and to share information during actual emergency response events and during all emergency response drills and exercises. Upon arrival at the site, each party will advise the other of its presence and confer upon the status and adequacy of emergency response operations.

9. The NRC will use its best efforts to make available space in its inspector training courses, seminars and special orientation programs to accommodate the training needs of the EFSEC inspectors.

10. Nothing in this Subagreement is intended to restrict or extend the statutory or regulatory authority of either EFSEC or NRC.

11. This Subagreement shall take effect immediately upon signing by the Chairman of EFSEC and the Regional Administrator, NRC Region V and may be terminated upon 30 days written notice by either party.

12. The principal NRC point of contact for this Subpagreement shall be the Regional Administrator, NRC Region V. The principal Washington State contact shall be the Chairman of EFSEC.

13. If any provision of this Subagreement, or the application of any provision to any person or circumstance is held invalid, the remainder of this Subagreement and the application of such provisions to other persons or circumstances shall not be affected.

For the U.S. Nuclear Regulatory Commission.

John B. Martin,
Regional Administrator.

Dated: March 7, 1985.

For the Washington Energy Facility Site Evaluation Council.

Curtis Eschles,
Chairman.

Dated: February 19, 1985.

50 FR 15485
Published 4/18/85

Memorandum of Understanding Between Federal Emergency Management Agency and Nuclear Regulatory Commission

The Federal Emergency Management Agency (FEMA) and the Nuclear Regulatory Commission (NRC) have entered into a new Memorandum of Understanding (MOU) Relating To Radiological Emergency Planning and Preparedness. This supersedes a memorandum entered into November 4, 1980 (Published December 16, 1980, 45 FR 82713). The substantive changes in the new MOU deal principally with the FEMA handling of NRC requests for findings and determinations concerning offsite planning and preparedness. The basis and conditions for interim findings in support of licensing are defined, as well as provisions for status reports when plans are not complete. The text of the MOU is set out below except that an attachment is not included. This attachment concerns membership on a steering committee.

Memorandum of Understanding Between NRC and FEMA Relating to Radiological Emergency Planning and Preparedness

I. Background and Purpose

This memorandum of Understanding (MOU) establishes a framework of cooperation between the Federal Emergency Management Agency (FEMA) and the U.S. Nuclear Regulatory Commission (NRC) in radiological emergency response planning matters, so that their mutual efforts will be directed toward more effective plans and related preparedness measures at and in the vicinity of nuclear reactors and fuel cycle facilities which are subject to 10 CFR Part 50, Appendix E, and certain other fuel cycle and materials licensees which have potential for significant accidental offsite radiological releases. The memorandum is responsive to the President's decision of December 7, 1979, that FEMA will take the lead in offsite planning and response, his request that NRC assist FEMA in carrying out this role, and the NRC's continuing statutory responsibility for the radiological health and safety of the public.

On January 14, 1980, the two agencies entered into a "Memorandum of Understanding Between NRC and FEMA to Accomplish a Prompt Improvement in Radiological Emergency Preparedness" that was responsive to the President's December 7, 1979, statement. A revised and updated memorandum of understanding became effective November 1, 1980. This MOU is a further revision to reflect the evolving relationship between NRC and FEMA and the experience gained in carrying out the provisions of the January and November 1980 MOU's. This MOU supersedes these two earlier versions of the MOU.

The general principles, agreed to in the previous MOU's and reaffirmed in this MOU, are as follows: FEMA coordinates all Federal planning for the offsite impact of radiological emergencies and takes the lead for assessing offsite radiological emergency response plans [1] and preparedness, makes findings and determinations as to the adequacy and capability of implementing offsite plans, and communicates those findings and determinations to the NRC. The NRC reviews those FEMA findings and determinations in conjunction with the NRC onsite findings for the purpose of making determinations on the overall state of emergency preparedness. These overall findings and determinations are used by NRC to make radiological health and safety decisions in the issuance of licenses and the continued operation of licensed plants to include taking enforcement actions as notices of violations, civil penalties, orders, or shutdown of operating reactors. This delineation of responsibilities avoids duplicative efforts by the NRC staff in offsite preparedness matters.

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[1] Assessments of offsite plans may be based on State and local government plans submitted to FEMA under its rule (44 CFR Part 350), and as noted in 44 CFR 350.3(f), may also be based on plans currently available to FEMA or furnished to FEMA through the NRC/FEMA Steering Committee.

A separate MOU dated October 22, 1980, deals with NRC/FEMA cooperation and responsibilities in response to an actual or potential radiological emergency. Operations Response Procedures have been developed that implement the provisions of the Incident Response MOU. These documents are intended to be consistent with the Federal Radiological Emergency Response Plan which describes the relationships, role, and responsibilities of Federal agencies for responding to accidents involving peacetime nucelar emergencies.

II. Authorities and Responsibilities

FEMA—Executive Order 12148 charges the Director, FEMA, with the responsibility to ". . . establish Federal policies for, and coordinate, all civil defense and civil emergency planning, management, mitigation, and assistance functions of Executive agencies" (Section 2–101) and ". . . represent the President in working with State and local governments and the private sector to stimulate vigorous participation in civil emergency preparedness, mitigation, response, and recovery programs." (Section 2–104.)

On December 7, 1979, the President, in response to the recommendations of the Kemeny Commission on the Accident at Three Mile Island, directed that FEMA assume lead responsibility for all offsite nuclear emergency planning and response.

Specifically, the FEMA responsibilities with respect to radiological emergency preparedness as they relate to NRC are:

1. To take the lead in offsite emergency planning and to review and assess offsite emergency plans and preparedness for adequacy.

2. To make findings and determinations as to whether offsite emergency plans are adequate and can be implemented (e.g., adequacy and maintenance of procedures, training, resources, staffing levels and qualifications, and equipment adequacy). Notwithstanding the procedures which are set forth in 44 CFR 350 for requesting and reaching a FEMA administrative approval of State and local plans, findings, and determinations on the current status of emergency planning and preparedness around particular sites, referred to as interim findings, will be provided by FEMA for use as needed in the NRC licensing process. Such findings will be provided by FEMA on mutually agreed to schedules or on specific NRC request. The request and findings will normally be by written communications between the co-chairs of the NRC/FEMA Steering Committee. An interim finding provided under this arrangement will be an extension of FEMA's procedures for review and approval of offsite radiological emergency plans and preparedness set forth in 44 CFR 350. It will be based on the review of currently available plans and, if appropriate, joint exercise results related to a specific nuclear power plant site.

An interim finding based only on the review of currently available offsite plans will include an assessment as to whether these plans are adequate when measured against the standards and criteria of NUREG–0654/FEMA–REP–1, and, pending a demonstration through an exercise, whether there is reasonable assurance that the plans can be implemented. The finding will indicate one of the following conditions: (1) Plans are adequate and there is reasonable assurance that they can be implemented with only limited or no corrections needed; (2) plans are adequate, but before a determination can be made as to whether they can be implemented, corrections must be made to the plans or supporting measures must be demonstrated (e.g., adequacy and maintenance of procedures, training, resources, staffing levels and qualifications, and equipment adequacy); or (3) plans are adequate and cannot be implemented until they are revised to correct deficiencies noted in the Federal review.

If in FEMA's view the plans that are available are not completed or are not ready for review, FEMA will provide NRC with a status report delineating milestones for preparation of the plan by the offsite authorities as well as FEMA's actions to assist in timely development and review of the plans.

An interim finding on preparedness will be based on review of currently available plans and joint exercise results and will include an assessment as to (1) whether offsite emergency plans are adequate as measured against the standards and criteria of NUREG–0654/FEMA–REP–1, and (2) whether the exercise(s) demonstrated that there is reasonable assurance that the plans can be implemented.

An interim finding on preparedness will indicate one of the following conditions: (1) There is reasonable assurance that the plans are adequate and can be implemented as demonstrated in an exercise; (2) there are deficiencies that may adversely affect public health and safety that must be corrected in order to provide reasonable assurance that the plans can be implemented; or (3) FEMA is undecided and will provide a schedule of actions leading to a decision.

3. To assume responsibility, as a supplement to State, local, and utility efforts, for radiological emergency preparedness training of State and local officials.

4. To develop and issue an updated series of interagency assignments which delineate respective agency capabilities and responsibilities and define procedures for coordination and direction for emergency planning and response. [Current assignments are in 44 CFR 351, March 11, 1982. (47 FR 10758)].

NRC—The Atomic Energy Act of 1954, as amended, requires that the NRC grant licenses only if the health and safety of the public is adequately protected. While the Atomic Energy Act does not specifically require emergency plans and related preparedness measures, the NRC requires consideration of overall emergency preparedness as a part of the licensing process. The NRC rules (10 CFR 50.33, 50.34, 50.47, 50.54, and Appendix E to 10 CFR Part 50) include requirements for the licensee's emergency plans.

Specifically, the NRC responsibilities for radiological emergency preparedness are:

1. To assess licensee emergency plans for adequacy. This review will include organizations with whom licensees have written agreements to provide onsite support services under emergency conditions.

To verify that licensee emergency plans are adequately implemented (e.g., adequacy and maintenance of procedures, training, resources, staffing levels and qualifications, and equipment).

3. To review the FEMA findings and determinations as to whether offsite plans are adequate and can be implemented.

4. To make radiological health and safety decisions with regard to the overall state of emergency preparedness (i.e., integration of emergency preparedness onsite as determined by the NRC and offsite as determined by FEMA and reviewed by NRC) such as assurance for continued operation, for issuance of operating licenses, or for taking enforcement actions, such as notices of violations, civil penalties, orders, or shutdown of operating reactors.

III. Areas of Cooperation

A. *NRC Licensing Reviews.* FEMA will provide support to the NRC for licensing reviews related to reactors, fuel facilities, and materials licensees with regard to the assessment of the adequacy of offsite radiological emergency response plans and preparedness. This will include timely submittal of an evaluation suitable for inclusion in NRC safety evaluation reports.

Substantially prior to the time that a FEMA evaluation is required with regard to fuel facility or materials license review, NRC will identify those fuel and materials licensees with potential for significant accidental offsite radiological releases and transmit a request for review to FEMA as the emergency plans are completed.

FEMA routine support will include providing assessments, findings and determinations (interim and final) on offsite plans and preparedness related to reactor license reviews. To support its findings and determinations, FEMA will make expert witnesses available before the Commission, the NRC Advisory Committee on Reactor Safeguards, NRC hearing boards and administrative law judges, for any court actions, and during any related discovery proceedings.

FEMA will appear in NRC licensing proceedings as part of the presentation of the NRC staff. FEMA counsel will normally present FEMA witnesses and be permitted, at the discretion of the NRC licensing board, to cross-examine the witnesses of parties, other than the NRC witnesses, on matters involving FEMA findings and determinations, policies, or operations; however, FEMA will not be asked to testify on status reports. FEMA is not a party to NRC proceedings and, therefore, is not subject to formal discovery requirements placed upon parties to NRC proceedings. Consistent with available resources, however, FEMA will respond informally to discovery requests by parties. Specific assignment of professional responsibilities between NRC and FEMA counsel will be primarily the responsibility of the attorneys assigned to a particular case. In situations where questions of professional responsibility cannot be resolved by the attorneys assigned, resolution of any differences will be made by the General Counsel of FEMA and the Executive Legal Director of the NRC or their designees. NRC will request the presiding Board to place FEMA on the service list for all litigation in which it is expected to participate.

Nothing in this document shall be construed in any way to diminish NRC's responsibility for protecting the radiological health and safety of the public.

B. *FEMA Review of Offsite Plans and Preparedness.* NRC will assist in the development and review of offsite plans and preparedness through its membership on the Regional Assistance Committees (RAC). FEMA will chair the Regional Assistance Committees. Consistent with NRC's statutory responsibility, NRC will recognize FEMA as the interface with State and local governments for interpreting offsite radiological emergency planning and preparedness criteria as they affect those governments and for reporting to those governments the results of any evaluation of their radiological emergency plans and preparedness.

Where questions arise concerning the interpretation of the criteria, such questions will continue to be referred to FEMA Headquarters, and when appropriate, to the NRC/FEMA Steering Committee to assure uniform interpretation.

C. *Preparation for and Evaluation of Joint Exercises.* FEMA and NRC will cooperate in determining exercise requirements for licensees, State and local governments. They will also jointly observe and evaluate exercises. NRC and FEMA will institute procedures to enhance the review of the objectives and scenarios for joint exercises. This review is to assure that both the onsite considerations of NRC and the offsite considerations of FEMA are adequately addressed and integrated in a manner that will provide for a technically sound exercise upon which an assessment of preparedness capabilities can be based. The NRC/FEMA procedures will provide for the availability of exercise objectives and scenarios sufficiently in advance of sheduled exercises to allow enough time for adequate review by NRC and FEMA and correction of any deficiencies by the licensee. The failure of a licensee to develop a scenario that adequately addresses both onsite and offsite considerations may result in NRC taking enforcement actions.

The FEMA reports will be a part of an interim finding on emergency preparedness; or will be the result of an exercise conducted pursuant to FEMA's review and approval procedures under 44 CFR Part 350. Exercise evaluations will identify one of the following conditions: (1) There is reasonable assurance that the plans are adequate and can be implemented as demonstrated in the exercise; (2) there are deficiencies that may adversely impact public health and safety that must be corrected by the affected State and local governments in order to provide reasonable assurance that the plan can be implemented; or (3) FEMA is undecided and will provide a schedule of actions leading to a decision. Within 30 days of the exercise, a draft exercise report will be sent to the State, with a copy to the Regional Assistance Committee, requesting comments and a schedule of corrective actions, as appropriate, from the State in 30 days. Where there are deficiencies of the types noted in 2 above, and when there is a potential for a remedial exercise, FEMA Headquarters will promptly discuss these with NRC Headquarters. Within 90 days of the exercise, the FEMA report will be forwarded to the NRC Headquarters. Within 15 days of receipt of the FEMA report, NRC will notify FEMA in writing of action taken with the licensee relative to FEMA initiatives with State and local governments to correct deficiencies identified in the exercise.

D. *Emergency Planning and Preparedness Guidance.* NRC has lead responsibility for the development of emergency planning and preparedness guidance for licensees. FEMA has lead responsibility for the development of radiological emergency planning and preparedness guidance for State and local agencies. NRC and FEMA recognize the need for an integrated, coordinated approach to radiological emergency planning and preparedness by NRC licensees and State and local governments. NRC and FEMA will each, therefore, provide opportunity for the other agency to review and comment on such guidance (including interpretations of agreed joint guidance) prior to adoption as formal agency guidance.

E. *Support for Document Management System.* FEMA and NRC will each provide the other with continued access to those automatic data processing support systems which contain relevant emergency preparedness data.

At NRC, this includes Document Management System support to the extent that it does not affect duplication or records retention. At FEMA, this includes technical support to the Radiological Emergency Preparedness Management Information System. This agreement is not intended to include the automated information retrieval support for the national level emergency response facilities.

F. *Ongoing NRC Research and Development Programs.* Ongoing NRC and FEMA research and development programs that are related to State and local radiological emergency planning and preparedness will be coordinated. NRC and FEMA will each provide opportunity for the other agency to review and comment on relevant research and development programs prior to implementing them.

G. *Public Information and Education Programs.* DEMA will take the lead in developing public information and education programs. NRC will assist FEMA by reviewing for accuracy educational materials concerning radiation and its hazards and information regarding appropriate actions to be taken by the general public in the event of an accident involving radioactive materials.

IV. NRC/FEMA Steering Committee

The NRC/FEMA Steering Committee

on Emergency Preparedness will continue to be the focal point for coordination of emergency planning, preparedness, and response activities between the two agencies. The Steering Committee will consist of an equal number of members to represent each agency with one vote per agency. When the Steering Committee cannot agree on the resolution of an issue, the issue will be referred to NRC and FEMA management. The NRC members will have lead responsibility for licensee planning and preparedness and the FEMA members will have lead responsibility for offsite planning and preparedness. The Steering Committee will assure coordination of plans and preparedness evaluation activities and revise, as necessary, acceptance criteria for licensee, State, and local radiological emergency planning and preparedness. NRC and FEMA will then consider and adopt criteria, as appropriate, in their respective jurisdictions. (See Attachment 1.)

V. Working Arrangements

A. The normal point of contact for implementation of the points in this MOU will be the NRC/FEMA Steering Committee.

B. The Steering Committee will establish the day-to-day procedures for assuring that the arrangements of this MOU are carried out.

VI. Memorandum of Understanding

A. This MOU shall be effective as of date of signature and shall continue in effect unless terminated by either party upon 30 days notice in writing.

B. Amendments or modifications to this MOU may be made upon written agreement by both parties.

Approved for the U.S. Nuclear Regulatory Commission.

Dated: April 3, 1985.

William J. Dircks,

Executive Director for Operations.

Approved for the Federal Emergency Management Agency.

Dated: April 9, 1985.

Samuel W. Speck,

Associate Director, State and Local Programs and Support.

UNITED STATES NUCLEAR REGULATORY COMMISSION

RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS—ENERGY

COMMISSION NOTICES

REGULATORY GUIDES

DIVISION 1 REGULATORY GUIDES
POWER REACTORS

Number	Title	Date	Revision
1.1	Net Positive Suction Head for Emergency Core Cooling and Containment Heat Removal System Pumps	11/2/70	
1.2	Thermal Shock to Reactor Pressure Vessels	11/2/70	
1.3	Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Boiling Water Reactors.	6/74	2
1.4	Assumptions Used for Evaluating the Potential Radiological Consequences of a Loss of Coolant Accident for Pressurized Water Reactors	6/74	2
1.5	Assumptions Used for Evaluating the Potential Radiological Consequences of a Steam Line Break Accident for Boiling Water Reactors	3/10/71	
1.6	Independence Between Redundant Standby (Onsite) Power Sources and Between Their Distribution Systems	3/10/71	
1.7	Control of Combustible Gas Concentrations in Containment Following a Loss of Coolant Accident	**12/78**	**2**
1.8	Personnel Selection and Training	5/77	1-R
1.9	Selection, Design, and Qualification of Diesel-Generator Units Used as Standby (Onsite) Electric Power Systems at Nuclear Power Plants	12/79	2
1.10	Mechanical (Cadweld) Splices in Reinforcing Bars of Category I Concrete Structures	(Withdrawn - superseded by 1.136 Rev. 2, 6/81)	
1.11	Instrument Lines Penetrating Primary Reactor Containment	3/10/71	
	Supplement to Safety Guide 11, Backfitting Considerations	2/10/72	
1.12	Instrumentation for Earthquakes	4/74	1

REGULATORY GUIDES

Number	Title	Date	Revision
1.13	Spent Fuel Storage Facility Design Basis	12/75	1
1.14	Reactor Coolant Pump Flywheel Integrity	8/75	1
1.15	Testing of Reinforcing Bars for Category I Concrete Structures	(Withdrawn - superseded by 1.136 Rev. 2, 6/81)	
1.16	Reporting of Operating Information—Appendix A Technical Specifications	8/75	4
1.17	Protection of Nuclear Plants Against Industrial Sabotage	6/73	1
1.18	Structural Acceptance Test for Concrete Primary Reactor Containments	(Withdrawn - superseded by 1.136 Rev. 2, 6/81)	
1.19	Nondestructive Examination of Primary Containment Liner Welds	(Withdrawn - superseded by 1.136 Rev. 2, 6/81)	
1.20	Comprehensive Vibration Assessment Program for Reactor Internals During Preoperational and Initial Startup Testing	5/76	2
1.21	Measuring, Evaluating, and Reporting Radioactivity in Solid Wastes and Release of Radioactivity in Liquid and Gaseous Effluents from Light Water-Cooled Nuclear Power Plants	6/74	1
1.22	Periodic Testing of Protection System Actuation Functions	2/17/72	
1.23	Onsite Meteorological Programs	2/17/72	
1.24	Assumptions Used for Evaluating the Potential Radiological Consequences of a Pressurized Water Reactor Gas Storage Tank Failure	3/23/72	
1.25	Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors	3/23/72	
1.26	Quality Group Classifications and Standards for Water-, Steam- and Radio-Waste-Containing Components of Nuclear Power Plants	2/76	3
1.27	Ultimate Heat Sink for Nuclear Power Plants	1/76	2
1.28	Quality Assurance Program Requirements (Design and Construction)	2/79	2
1.29	Seismic Design Classification	9/78	3
1.30	Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment	8/11/72	
1.31	Control of Ferrite Content in Stainless Steel Weld Metal	4/78	3

REGULATORY GUIDES

Number	Title	Date	Revision
1.32	Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants	2/77	2
1.33	Quality Assurance Program Requirements (Operation)	2/78	2
1.34	Control of Electroslag Weld Properties	12/28/72	
1.35	Inservice Inspection of Ungrouted Tendons in Prestressed Concrete Containment Structures	1/76	2
1.36	Nonmetallic Thermal Insulation for Austenitic Stainless Steel	2/23/73	
1.37	Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants	3/73	
1.38	Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants	5/77	2
1.39	Housekeeping Requirements for Water-Cooled Nuclear Power Plants	9/77	2
1.40	Qualification Tests of Continuous-Duty Motors Installed Inside the Containment of Water-Cooled Nuclear Power Plants	3/73	
1.41	Preoperational Testing of Redundant Onsite Electric Power Systems to Verify Proper Load Group Assignments	3/73	
†1.42	Interim Licensing Policy on As Low As Practicable for Gaseous Radioiodine Releases from Light-Water-Cooled Nuclear Power Reactors	(withdrawn 3/22/76)	
1.43	Control of Stainless Steel Weld Cladding of Low-Alloy Steel Components	5/73	
1.44	Control of the Use of Sensitized Stainless Steel	5/73	
1.45	Reactor Coolant Pressure Boundary Leakage Detection Systems	5/73	
≫1.46	Protection Against Pipe Whip Inside Containment	(withdrawn 3/4/85 50 FR 9732)	
1.47	Bypassed and Inoperable Status Indication for Nuclear Power Plant Safety Systems	5/73	
≫1.48	Design Limits and Loading Combinations for Seismic Category I Fluid System Components	(withdrawn 3/4/85 50 FR 9732)	
1.49	Power Levels of Nuclear Power Plants	12/73	1
1.50	Control of Preheat Temperature for Welding of Low-Alloy Steel	5/73	

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†Available at the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.

REGULATORY GUIDES

Number	Title	Date	Revision
†1.51	Inservice Inspection of ASME Code Class 2 and 3 Nuclear Power Plant Components	(withdrawn 7/21/75)	
1.52	Design, Testing, and Maintenance Criteria for Post accident Engineered-Safety-Feature Atmosphere Cleanup System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants	3/78	2
1.53	Application of the Single-Failure Criterion to Nuclear Power Plant Protection Systems	6/73	
1.54	Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants	6/73	
1.55	Concrete Placement in Category I Structures	(Withdrawn - superseded by 1.136 Rev. 2, 6/81)	
1.56	Maintenance of Water Purity in Boiling Water Reactors	7/78	1
1.57	Design Limits and Loading Combinations for Metal Primary Reactor Containment System Components	6/73	
1.58	Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel	9/80	1
1.59	Design Basis Floods for Nuclear Power Plants	8/77	2
	Errata to Refulatory Guide 1.59	7/80	
1.60	Design Response Spectra for Seismic Design of Nuclear Power Plants	12/73	1
1.61	Damping Values for Seismic Design of Nuclear Power Plants	10/73	
1.62	Manual Initiation of Protective Actions	10/73	
1.63	Electric Penetration Assemblies in Containment Structures for Light-Water-Cooled Nuclear Power Plants	7/78	2
1.64	Quality Assurance Requirements for the Design of Nuclear Power Plants	6/76	2
1.65	Materials and Inspection for Reactor Vessel Closure Studs	10/73	
†1.66	Nondestructive Examination of Tubular Products	(withdrawn 10/77)	
≫ 1.67	Installation of Overpressure Protective Devices	(Withdrawn 4/83)	
1.68	Initial Test Programs for Water-Cooled Nuclear Power Plants	8/78	2
1.68.1	Preoperational and Initial Startup Testing of Feedwater and Condensate Systems for Boiling Water Reactor Power Plants	1/77	1

† Available at the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.

REGULATORY GUIDES

Number	Title	Date	Revision
1.68.2	Initial Startup Test Program to Demonstrate Remote Shutdown Capability for Water-Cooled Nuclear Power Plants	7/78	1
1.68.3	Preoperational Testing of Instrument and Control Air Systems	4/82	
1.69	Concrete Radiation Shields for Nuclear Power Plants	12/73	
1.70	Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants	11/78	3
1.71	Welder Qualification for Areas of Limited Accessibility	12/73	
1.72	Spray Pond Piping Made From Fiberglass-Reinforced Thermosetting Resin	11/78	2
1.73	Qualification Tests of Electric Valve Operators Installed Inside the Containment of Nuclear Power Plants	1/74	
1.74	Quality Assurance Terms and Definitions	2/74	
1.75	Physical Independence of Electric Systems	9/78	2
1.76	Design Basis Tornado for Nuclear Power Plants	4/74	
1.77	Assumptions Used for Evaluating a Control Rod Ejection Accident for Pressurized Water Reactors	5/74	
1.78	Assumptions for Evaluating the Habitability of a Nuclear Power Plant Control Room During a Postulated Hazardous Chemical Release	6/74	
1.79	Preoperational Testing of Emergency Core Cooling Systems for Pressurized Water Reactors	9/75	1
1.80	Preoperational Testing of Instrument Air Systems	(Withdrawn 4/82)	
1.81	Shared Emergency and Shutdown Electric Systems for Multi-Unit Nuclear Power Plants	1/75	1
1.82	Sumps for Emergency Core Cooling and Containment Spray Systems	6/74	
1.83	Inservice Inspection of Pressurized Water Reactor Steam Generator Tubes	7/75	1
➤ 1.84	Design and Fabrication Code Case Acceptability–ASME Section III Division 1	7/84	22
➤ 1.85	Materials Code Case Acceptability–ASME Section III Division 1	7/84	22
1.86	Termination of Operating Licenses for Nuclear Reactors	6/74	
1.87	Guidance for Construction of Class 1 Components in Elevated-Temperature Reactors (Supplement to ASME Section III Code Classes 1592, 1593, 1594, 1595, and 1596)	6/75	1

REGULATORY GUIDES

Number	Title	Date	Revision
1.88	Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records	10/76	2
➤ 1.89	Environmental Qualification of Certain Electric Equipment Important to Safety for Nuclear Power Plants	7/84	1
1.90	Inservice Inspection of Prestressed Concrete Containment Structures With Grouted Tendons	8/77	1
1.91	Evaluations of Explosions Postulated to Occur on Transportation Routes Near Nuclear Power Plants	2/78	1
1.92	Combining Modal Responses and Spatial Components in Seismic Response Analysis	2/76	1
1.93	Availability of Electric Power Sources	12/74	
1.94	Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants	4/76	1
1.95	Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release	2/77	1
1.96	Design of Main Steam Isolation Valve Leakage Control Systems for Boiling Water Reactor Nuclear Power Plants	6/76	1
1.97	Instrumentation for Light-Water-Cooled Nuclear Power Plants To Assess Plant and Environs Conditions During and Following an Accident	5/83	Revision 3
1.98	Assumptions Used for Evaluating the Potential Radiological Consequences of a Radioactive Offgas System Failure in a Boiling Water Reactor	3/76	
1.99	Effects of Residual Elements on Predicted Radiation Damage to Reactor Vessel Materials	4/77	1
1.100	Seismic Qualification of Electric Equipment for Nuclear Power Plants	8/77	1
1.101	Emergency Planning and Preparedness for Nuclear Power Reactors	10/81	2
1.102	Flood Protection for Nuclear Power Plants	9/76	1
1.103	Post-Tensioned Prestressing Systems for Concrete Reactor Vessels and Containments	(Withdrawn - superseded by 1.136 Rev. 2, 6/81)	
1.104	Overhead Crane Handling Systems for Nuclear Power Plants	(withdrawn 8/22/79)	
1.105	Instrument Setpoints	11/76	1
1.106	Thermal Overload Protection for Electric Motors on Motor-Operated Valves	3/77	1

REGULATORY GUIDES

Number	Title	Date	Revision
1.107	Qualifications for Cement Grouting for Prestressing Tendons in Containment Structures	2/77	1
‡ 1.108	Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants Errata to Regulatory Guide 1.108	8/77 9/77	1
1.109	Calculation of Annual Doses to Man From Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I	10/77	1
1.110	Cost-Benefit Analysis for Radwate Systems for Light-Water-Cooled Nuclear Power Reactors	3/76	
1.111	Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors	7/77	1
1.112	Calculation of Releases of Radioactive Materials in Gaseous and Liquid Effluents from Light-Water-Cooled Power Reactors	5/77	0-R
1.113	Estimating Aquatic Dispersion of Effluents from Accidental and Routine Reactor Releases for the Purpose of Implementing Appendix I	4/77	1
1.114	Guidance on Being Operator at the Controls of a Nuclear Power Plant	11/76	1
1.115	Protection Against Low-Trajectory Turbine Missiles	7/77	1
1.116	Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems	5/77	0-R
1.117	Tornado Design Classification	4/78	1
1.118	Periodic Testing of Electric Power and Protection Systems	6/78	2
†1.119	Surveillance Program for New Fuel Assembly Designs	(withdrawn 6/3/77)	
1.120	Fire Protection Guidelines for Nuclear Power Plants	11/77	1
1.121	Bases for Plugging Degraded PWR Steam Generator Tubes	8/76	
1.122	Development of Floor Design Response Spectra for Seismic Design of Floor-Supported Equipment or Components	2/78	1
1.123	Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants	7/77	1

†Available at the NRC Public Document Room, 1717 H Street, N.W.,Washington, D.C.

‡Errata sheet available by writing to the Director, Division of Document Control, USNRC, Washington, D.C. 20555.

REGULATORY GUIDES

Number	Title	Date	Revision
1.124	Service Limits and Loading Combinations for Class 1 Linear Type Component Supports	1/78	1
1.125	Physical Models for Design and Operation of Hydraulic Structures and Systems for Nuclear Power Plants	10/78	1
1.126	An Acceptable Model and Related Statistical Methods for the Analysis of Fuel Densification	4/78	1
1.127	Inspection of Water-Control Structures Associated with Nuclear Power Plants	3/78	1
1.128	Installation Design and Installation of Large Lead Storage Batteries for Nuclear Power Plants	10/78	1
1.129	Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Nuclear Power Plants	2/78	1
1.130	Service Limits and Loading Combinations for Class 1 Plate-and-Shell-Type Component Supports	10/78	1
1.131	Qualification Tests of Electric Cables, Field Splices, and Connections for Light-Water-Cooled Nuclear Power Plants	8/77	
1.132	Site Investigations for Foundations of Nuclear Power Plants	3/79	1
1.133	Loose-Part Detection Program for the Primary Systems of Light-Water-Cooled Reactors	5/81	1
1.134	Medical Evaluation of Nuclear Power Plant Personnel Requiring Operator Licenses	3/79	1
1.135	Normal Water Level and Discharge at Nuclear Power Plants	9/77	
1.136	Materials, Construction, and Testing of Concrete Containments (Articles CC-1000, -2000, and -4000 through -6000 of the "Code for Concrete Reactor Vessels and Containments"	6/81	2
1.137	Fuel-Oil Systems for Standby Diesel Generators	10/79	1
1.138	Laboratory Investigations of Soils for Engineering Analysis and Design of Nuclear Power Plants	4/78	
1.139	Guidance for Residual Heat Removal	5/78	
1.140	Design, Testing, and Maintenance Criteria for Normal Ventilation Exhaust System Air Filtration and Adsorption Units of Light-Water-Cooled Nuclear Power Plants	10/79	1
1.141	Containment Isolation Provisions for Fluid Systems	4/78	
1.142	Safety-Related Concrete Structures for Nuclear Power Plants (Other Than Reactor Vessels and Containments)	10/81	1

REGULATORY GUIDES

Number	Title	Date	Revision
1.143	Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in Light-Water-Cooled Nuclear Power Plants	10/79	1
1.144	Auditing of Quality Assurance Programs for Nuclear Power Plants	9/80	1
1.145	Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants	2/83	Correction to Revision 1
1.146	Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants	8/80	
➤ 1.147	Inservice Inspection Code Case Acceptability–ASME Section XI Division 1	8/84	3
1.148	Functional Specification for Active Valve Assemblies in Systems Important to Safety in Nuclear Power Plants	4/81	
1.149	Nuclear Power Plant Simulators for Use in Operating Training	5/81	
1.150	Ultrasonic Testing of Reactor Vessel Welds During Preservice and Inservice Examinations	2/83	1
1.151	Instrument Sensing Lines	8/83	

REGULATORY GUIDES

DIVISION 2 REGULATORY GUIDES
RESEARCH AND TEST REACTORS

Number	Title	Date	Revision
2.1	Shield Test Program for Evaluation of Installed Biological Shielding in Research and Training Reactors	5/73	
2.2	Development of Technical Specifications for Experiments in Research Reactors	11/73	
2.3	Quality Verification for Plate-Type Uranium-Aluminum Fuel Elements for Use in Research Reactors	7/76	1
2.4	Review of Experiments for Research Reactors	5/77	0-R
2.5	Quality Assurance Program Requirements for Research Reactors	10/77	0-R
2.6	Emergency Planning for Research and Test Reactors	3/83	

REGULATORY GUIDES

DIVISION 3 REGULATORY GUIDES
FUELS AND MATERIALS FACILITIES

Number	Title	Date	Revision
3.1	Use of Borosilicate-Class Rashig Rings as a Neutron Absorber in Solutions of Fissile Material	2/82	1
3.2	Efficiency Testing of Air-Cleaning Systems Containing Devices for Removal of Particles	1/73	
3.3	Quality Assurance Program Requirements for Fuel Reprocessing Plants and for Plutonium Processing and Fuel Fabrication Plants	3/74	1
3.4	Nuclear Criticality Safety in Operations with Fissionable Materials Outside Reactors	2/78	1
3.5	Standard Format and Content of License Applications for Uranium Mills	11/77	1
3.6	Content of Technical Specifications for Fuel Reprocessing Plants	4/73	
3.7	Monitoring of Combustible Gases and Vapors in Plutonium Processing and Fuel Fabrication Plants	3/73	
3.8	Preparation of Environmental Reports for Uranium Mills	10/82	2
3.9	Concrete Radiation Shields	6/73	
3.10	Liquid Waste Treatment System Design Guide for Plutonium Processing and Fuel Fabrication Plants	6/73	
3.11	Design, Construction, and Inspection of Embankment Retention Systems for Uranium Mills	12/77	2
3.11.1	Operational Inspection and Surveillance of Embankment Retention Systems for Uranium Mill Tailings	10/80	1
3.12	General Design Guide for Ventilation Systems of Plutonuim Processing and Fuel Fabrication Plants	8/73	
3.13	Guide for Acceptable Waste Storage Methods at UF_6 Production Plants	10/73	
3.14	Seismic Design Classification for Plutonium Processing and Fuel Fabrication Plants	10/73	
≫ 3.15	Standard Format and Content of License Applications for Storage Only of Unirradiated Power Reactor Fuel and Associated Radioactive Material	4/83	1
3.16	General Fire Protection Guide for Plutonium Processing and Fuel Fabrication Plants	1/74	
3.17	Earthquake Instrumentation for Fuel Reprocessing Plants	2/74	
3.18	Confinement Barriers and Systems for Fuel Reprocessing Plants	2/74	
3.19	Reporting of Operating Information for Fuel Reprocessing Plants	2/74	

REGULATORY GUIDES

Number	Title	Date	Revision
3.20	Process Offgas Systems for Fuel Reprocessing Plants	2/74	
3.21	Quality Assurance Requirements for Protective Coatings Applied to Fuel Reprocessing and to Plutonium Processing and Fuel Fabrication Plants	3/74	
3.22	Periodic Testing of Fuel Reprocessing Plant Protection System Actuation Functions	6/74	
3.23	Stabilization of Uranium-Thorium Milling Waste Retention Systems	(withdrawn 10/22/80)	
3.24	Guidance on the License Application, Siting, Design, and Plant Protection for an Independent Spent Fuel Storage Installation	(withdrawn 2/18/81)	
3.25	Standard Format and Content of Safety Analysis Reports for Uranium Enrichment Facilities	12/74	
3.26	Standard Format and Content of Safety Analysis Reports for Fuel Reprocessing Plants	2/75	
3.27	Nondestructive Examination of Welds in the Liners of Concrete Barriers in Fuel Reprocessing Plants	5/77	1
3.28	Welder Qualification for Welding in Areas of Limited Accessibility in Fuel Reprocessing Plants and in Plutonium Processing and Fuel Fabrication Plants	5/75	
3.29	Preheat and Interpass Temperature Control for the Welding of Low-Alloy Steel for Use in Fuel Reprocessing Plants and in Plutonium Processing and Fuel Fabrication Plants	5/75	
3.30	Selection, Application, and Inspection of Protective Coatings (Paints) for Fuel Reprocessing Plants	6/75	
3.31	Emergency Water Supply Systems for Fuel Reprocessing Plants	5/77	
3.32	General Design Guide for Ventilation Systems for Fuel Reprocessing Plants	9/75	
3.33	Assumptions Used for Evaluating the Potential Radiological Consequences of Accidental Nuclear Criticality in a Fuel Reprocessing Plant	4/77	
3.34	Assumptions Used for Evaluating the Potential Radiological Consequences of Accidental Nuclear Criticality in a Uranium Fuel Fabrication Plant	7/79	1
3.35	Assumptions Used for Evaluating the Potential Radiological Consequences of Accidental Nuclear Criticality in a Plutonium Processing and Fuel Fabrication Plant	7/79	1
†3.36	Nondestructive Examination of Tubular Products for Use in Fuel Reprocessing Plants and in Plutonium Processing and Fuel Fabrication Plants	(withdrawn 2/1/79)	

†Available at the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.

REGULATORY GUIDES

Number	Title	Date	Revision
3.37	Guidance for Avoiding Intergranular Corrosion and Stress Corrosion in Austenitic Stainless Steel Components of Fuel Reprocessing Plants	9/75	
3.38	General Fire Protection Guide for Fuel Reprocessing Plants	6/76	
3.39	Standard Format and Content of License Applications for Plutonium Processing and Fuel Fabrication Plants	1/76	
3.40	Design Basis Floods for Fuel Reprocessing Plants and for Plutonium Processing and Fuel Fabrication Plants	12/77	1
3.41	Validation of Calculational Methods for Nuclear Criticality Safety	5/77	1
3.42	Emergency Planning for Fuel Cycle Facilities and Plants Licensed Under 10 CFR Parts 50 and 70	9/79	1
3.43	Nuclear Criticality Safety in the Storage of Fissile Materials	4/79	1
3.44	Standard Format and Content for the Safety Analysis Report for an Independent Spent Fuel Storage Installation (Water Basin Type)	12/80	1
3.45	Nuclear Criticality Safety for Pipe Intersections Containing Aqueous Solutions of Enriched Uranyl Nitrate.	11/80	
3.46	Standard Format and Content of License Applications, Including Environmental Reports, for In Situ Uranium Solution Mining	6/82	
3.47	Nuclear Criticality Control and Safety of Homogeneous Plutonium-Uranium Fuel Mixtures Outside Reactors	7/81	
3.48	Standard Format and Content for the Safety Analysis Report for an Independent Spent Fuel Storage Installation (Dry Storage)	10/81	
3.49	Design of an Independent Spent Fuel Storage Installation (Water-Basin Type)	1/82	
3.50	Guidance on Preparing a License Application To Store Spent Fuel in an Independent Spent Fuel Storage Installation	1/82	
3.51	Calculational Models for Estimating Radiation Doses to Man from Airborne Radioactive Materials Resulting from Uranium Milling Operations.	8/82	Errata
3.52	Standard Format and Content for the Health and Safety Sections of License Renewal Applications for Uranium Fuel Fabrication Plants.	7/82	
3.53	Applicability of Existing Regulatory Guides to the Design and Operation of an Independent Spent Fuel Storage Installation	8/82	
3.54	Spent Fuel Heat Generation in an Independent Spent Fuel Storage Installation	9/84	
➤ 3.55	Standard Format and Content for the Health and Safety Sections of License Renewal Applications for Uranium Hexafluoride Production	4/85	

REGULATORY GUIDES

DIVISION 4 REGULATORY GUIDES
ENVIRONMENTAL AND SITING GUIDES

Number	Title	Date	Revision
4.1	Programs for Monitoring Radioactivity in the Environs of Nuclear Power Plants	4/75	1
4.2	Preparation of Environmental Reports for Nuclear Power Stations	7/76	2
†4.3	Measurements of Radionuclides in the Environment–Analysis of I-131 in Milk	(withdrawn 12/9/76)	
4.4	Reporting Procedures for Mathematical Models Selected to Predict Heated Effluent Dispersion in Natural Water Bodies	5/74	
4.5	Measurements of Radionuclides in the Environment–Sampling and Analysis of Plutonium in Soil	5/74	
4.6	Measurements of Radionuclides in the Environment–Strontium-89 and Strontium-90 Analyses	5/74	
4.7	General Site Suitability Criteria for Nuclear Power Stations	11/75	1
4.8	Environmental Technical Specifications for Nuclear Power Plants	12/75	
4.9	Preparation of Environmental Reports for Commercial Uranium Enrichment Facilities	10/75	1
4.10	Irreversible and Irretrievable Commitments of Material Resources	(withdrawn 11/17/77)	
4.11	Terrestrial Environmental Studies for Nuclear Power Stations	8/77	1
4.12	[Not yet published]		
4.13	Performance, Testing, and Procedural Specifications for Thermoluminescence Dosimetry: Environmental Applications	7/77	1
4.14	Radiological Effluent and Environmental Monitoring at Uranium Mills	4/80	1
4.15	Quality Assurance for Radiological Monitoring Programs (Normal Operations)–Effluent Streams and the Environment	2/79	1
4.16	Measuring, Evaluating, and Reporting Radioactivity in Releases of Radioactive Materials in Liquid and Airborne Effluents from Nuclear Fuel Processing and Fabrication Plants	3/78	
4.17	Standard Format and Content of Site Characterization Reports for High-Level Waste Geologic Repositories	7/82	
4.18	Standard Format and Content of Environmental Reports for Near-Surface Disposal of Radioactive Waste	6/83	

REGULATORY GUIDES

DIVISION 5 REGULATORY GUIDES
MATERIALS AND PLANT PROTECTION

Number	Title	Date	Revision
5.1	Serial Numbering of Fuel Assemblies for Light-Water-Cooled Nuclear Power Reactors	12/20/72	
5.2	Classification of Unirradiated Plutonium and Uranium Scrap	(withdrawn 10/5/79)	
5.3	Statistical Terminology and Notation for Special Nuclear Materials Control and Accountability	2/2/73	
5.4	Standard Analytical Methods for the Measurement of Uranium Tetrafluoride (UF_4) and Uranium Hexafluoride (UF_6)	2/2/73	
5.5	Standard Methods for Chemical, Mass Spectrometric, and Spectrochemical Analysis of Nuclear-Grade Uranium Dioxide Powders and Pellets	2/9/73	
➤ 5.6	Standard Methods for Chemical, Mass Spectrometric, and Spectrochemical Analysis of Nuclear-Grade Plutonium Dioxide Powders and Pellets and Nuclear-Grade Mixed Oxides ([U, Pu]O_2)	(withdrawn 6/11/85)	
5.7	Entry/Exit Control for Protected Areas, Vital Areas, and Material Access	5/80	1
5.8	Design Considerations for Minimizing Residual Holdup of Special Nuclear Material in Drying and Fluidized Bed Operations	5/74	1
5.9	Guidelines for Germanium Spectroscopy Systems for Measurement of Special Nuclear Material	1/84	2
5.10	Selection and Use of Pressure-Sensitive Seals on Containers for Onsite Storage of Special Nuclear Material	7/73	
5.11	Nondestructive Assay of Special Nuclear Material Contained in Scrap and Waste	4/84	1
5.12	General Use of Locks in the Protection and Control of Facilities and Special Nuclear Materials	11/73	
5.13	Conduct of Nuclear Material Physical Inventories	11/73	
5.14	Use of Observation (Visual Surveillance) Techniques in Material Access Areas	5/80	1
5.15	Security Seals for the Protection and Control of Special Nuclear Material	1/74	
➤ 5.16	Standard Methods for Chemical, Mass Spectrometric, Spectrochemical, Nuclear, and Radiochemical Analysis of Nuclear-Grade Plutonium Nitrate Solutions and Plutonium Metal	(withdrawn 6/11/85)	

REGULATORY GUIDES

Number	Title	Date	Revision
5.17	Truck Identification Markings	1/74	
5.18	Limit of Error Concepts and Principles of Calculation in Nuclear Materials Control	1/74	
≫5.19	Methods for the Accountability of Plutonium Nitrate Solutions	(withdrawn 6/11/85)	
5.20	Training, Equipping, and Qualifying of Guards and Watchmen	1/74	
5.21	Nondestructive Uranium-235 Enrichment Assay by Gamma-Ray Spectrometry	1/84	1
5.22	Assessment of the Assumption of Normality (Employing Individual Observed Values)	4/74	
5.23	In-Situ Assay of Plutonium Residual Holdup	2/84	1
5.24	Analysis and Use of Process Data for the Protection of Special Nuclear Material	6/74	
5.25	Design Considerations for Minimizing Residual Holdup of Special Nuclear Material in Equipment for Wet Process Operations	6/74	
5.26	Selection of Material Balance Areas and Item Control Areas	5/75	1
5.27	Special Nuclear Material Doorway Monitors	6/74	
5.28	Evaluation of Shipper-Receiver Differences in the Transfer of Special Nuclear Materials	6/74	
5.29	Nuclear Material Control Systems for Nuclear Power Plants	6/75	1
5.30	Materials Protection Contingency Measures for Uranium and Plutonium Fuel Manufacturing Plants	6/74	
5.31	Specially Designed Vehicle with Armed Guards for Road Shipment of Special Nuclear Material	4/75	1
5.32	Communication with Transport Vehicles	5/75	1
5.33	Statistical Evaluation of Material Unaccounted For	6/74	
5.34	Nondestructive Assay for Plutonium in Scrap Material by Spontaneous Fission Detection	5/84	1
†5.35	Calorimetric Assay for Plutonium	(withdrawn 8/18/77)	
5.36	Recommended Practice for Dealing with Outlying Observations	6/74	

†Available at the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C.

REGULATORY GUIDES

Number	Title	Date	Revision
5.37	In-Situ Assay of Enriched Uranium Residual Holdup	10/83	1
5.38	Nondestructive Assay of High-Enrichment Uranium Fuel Plates by Gamma-Ray Spectrometry	10/83	1
5.39	General Methods for the Analysis of Uranyl Nitrate Solutions for Assay, Isotopic Distribution, and Impurity Determinations	12/74	
≫ 5.40	Methods for the Accountability of Plutonium Dioxide Powder	(withdrawn 6/11/85)	
5.41	[Not yet published]		
5.42	Design Considerations for Minimizing Residual Holdup of Special Nuclear Material in Equipment for Dry Process Operations	1/75	
5.43	Plant Security Force Duties	1/75	
5.44	Perimeter Intrusion Alarm Systems	5/80	2
5.45	Standard Format and Content for the Special Nuclear Material Control and Accounting Section of a Special Nuclear Material License Application (Including That for a Uranium Enriched Facility)	12/74	
5.46	[Not yet published]		
≫ 5.47	Control and Accountability of Plutonium in Waste Material	(withdrawn 6/11/85)	
5.48	Design Considerations–Systems for Measuring the Mass of Liquids	2/75	
5.49	Internal Transfers of Special Nuclear Material	3/75	
5.50	[Not yet published]		
5.51	Management Review of Nuclear Material Control and Accounting Systems	6/75	
5.52	Standard Format and Content of a Licensee Physical Protection Plan for Strategic Special Nuclear Material at Fixed Sites (Other Than Nuclear Power Plants)	7/80	2
5.53	Qualification, Calibration, and Error Estimation Methods for Nondestructive Assay	2/84	1
5.54	Standard Format and Content of Safeguards Contingency Plans for Nuclear Power Plants	3/78	
5.55	Standard Format and Content of Safeguards Contingency Plans for Fuel Cycle Facilities	3/78	

REGULATORY GUIDES

Number	Title	Date	Revision
5.56	Standard Format and Content of Safeguards Contingency Plans for Transportation	3/78	
5.57	Shipping and Receiving Control of Strategic Special Nuclear Material	6/80	1
5.58	Considerations for Establishing Traceability of Special Nuclear Material Accounting Measurements	2/80	1
5.59	Standard Format and Content for a Licensee Physical Security Plan for the Protection of Special Nuclear Material of Moderate or Low Strategic Significance	3/83	1
5.60	Standard Format and Content of a Licensee Physical Protection Plan for Strategic Special Nuclear Material in Transit	4/80	
5.61	Intent and Scope of the Physical Protection Upgrade Rule Requirements for Fixed Sites	6/80	
5.62	Reporting of Physical Security Events	3/81	
5.63	Physical Protection for Transient Shipments	7/82	

REGULATORY GUIDES

DIVISION 6 REGULATORY GUIDES
PRODUCTS

Number	Title	Date	Revision
6.1	Leak Testing Radioactive Brachytherapy Sources	7/74	1
6.2	Integrity and Test Specifications for Selected Brachytherapy Sources	7/74	1
6.3	Design, Construction, and Use of Radioisotopic Power Generators for Certain Land and Sea Applications	3/74	
6.4	Classification of Containment Properties of Sealed Radioactive Sources	8/80	2
6.5	General Safety Standard for Installations Using Nonmedical Sealed Gamma-Ray Sources	6/74	
6.6	Acceptance Sampling Procedures for Exempted and Generally Licensed Items Containing Byproduct Material	6/74	
6.7	Preparation of an Environmental Report to Support a Rule Making Petition Seeking an Exemption for a Radionucide-Containing Product	6/76	1
6.8	Identification Plaque for Irretrievable Well-Logging Sources *(comments requested by 12/11/78)*	10/78	

REGULATORY GUIDES

DIVISION 7 REGULATORY GUIDES
TRANSPORTATION

Number	Title	Date	Revision
7.1	Administrative Guide for Packaging and Transporting Radioactive Material	6/74	
7.2	Packaging and Transporation of Radioactively Contaminated Biological Materials	6/74	
7.3	Procedures for Picking Up and Receiving Packages of Radioactive Material	5/75	
7.4	Leakage Tests on Packages for Shipment of Radioactive Materials	6/75	
7.5	Administrative Guide for Obtaining Exemptions from Certain NRC Requirements Over Radioactive Material Shipments	5/77	
7.6	Design Criteria for the Structural Analysis of Shipping Cask Containment Vessels	3/78	1
7.7	Administrative Guide for Verifying Compliance with Packaging Requirements for Shipments of Radioactive Materials	8/77	
7.8	Load Combinations for the Structural Analysis of Shipping Casks	5/77	
7.9	Standard Format and Content of Part 71 Applications for Approval of Packaging of Type B, Large Quantity and Fissile Radioactive Materials	1/80	1
7.10	Establishing Quality Assurance Programs for Packaging Used in the Transport of Radioactive Material	1/83	

REGULATORY GUIDES

DIVISION 8 REGULATORY GUIDES
OCCUPATIONAL HEALTH

Number	Title	Date	Revision
8.1	Radiation Symbol	2/73	
8.2	Administrative Practices in Radiation Monitoring	2/73	
8.3	Film Badge Performance Criteria	2/73	
8.4	Direct-Reading and Indirect-Reading Pocket Dosimeters	2/73	
8.5	Criticality and Other Interior Evacuation Signals	3/81	1
8.6	Standard Test Procedures for Geiger-Muller Counters	5/73	
8.7	Occupational Radiation Exposure Records Systems	5/73	
8.8	Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will Be as Low as is Reasonably Achievable	6/78	3
8.9	Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program	9/73	
8.10	Operating Philosophy for Maintaining Occupational Radiation Exposures as Low as is Reasonably Achievable (Nuclear Power Reactors)	5/77	1-R
8.11	Applications of Bioassay for Uranium	6/74	
8.12	Criticality Accident Alarm Systems	1/81	1
8.13	Instruction Concerning Prenatal Radiation Exposure	11/75	1
8.14	Personnel Neutron Dosimeters	8/77	1
8.15	Acceptable Programs for Respiratory Protection	10/76	
8.16	[Not yet published]		
8.17	[Not yet published]		
8.18	Information Relevant to Ensuring That Occupational Radiation Exposures at Medical Institutions Will Be as Low as Reasonably Achievable	10/82	1
8.19	Occupational Radiation Dose Assessment in Light-Water Reactor Power Plants–Design Stage Man-Rem Estimates	7/79	1
8.20	Applications of Bioassay for I-125 and I-131	9/79	1
8.21	Health Physics Surveys for Byproduct Material at NRC-Licensed Processing and Manufacturing Plants	10/79	1
8.22	Bioassay at Uranium Mills	7/78	

REGULATORY GUIDES

Number	Title	Date	Revision
8.23	Radiation Safety Surveys at Medical Institutions	1/81	1
8.24	Health Physics Surveys During Enriched Uranium-235 Processing and Fuel Fabrication *(Comments requested by 1/25/79)*	10/79	1
8.25	Calibration and Error Limits of Air Sampling Instruments for Total Volume of Air Sampled	8/80	
8.26	Applications of Bioassay for Fission and Activation Products	9/80	
8.27	Radiation Protection Training for Personnel at Light-Water-Cooled Nuclear Power Plants	4/81	
8.28	Audible-Alarm Dosimeter	9/81	
8.29	Instruction Concerning Risks from Occupational Radiation Exposure	7/81	
≫ 8.30	Health Physics Surveys in Uranium Mills	6/83	
8.31	Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Mills Will Be As Low As Is Reasonably Achievable	5/83	

REGULATORY GUIDES

DIVISION 9 REGULATORY GUIDES
ANTITRUST AND FINANCIAL REVIEW

Number	Title	Date	Revision
9.1	Regulatory Staff Position Statement on Antitrust Matters	12/73	
9.2	Information Needed by the NRC Staff in Connection With Its Antitrust Review of Construction Permit Applications for Nuclear Power Plants	6/76	1
9.3	Information Needed by the NRC Staff in Connection With Its Antitrust Review of Operating License Applications for Nuclear Power Plants	10/74	
9.4	Suggested Format for Cash Flow Statements Submitted as Guarantees of Payment of Retrospective Premiums *(comments requested by 11/20/78)*	9/78	

DIVISION 10 REGULATORY GUIDES
GENERAL GUIDES

Number	Title	Date	Revision
10.1	Compilation of Reporting Requirements for Persons Subject to NRC Regulations	10/81	4
➤ 10.2	Guidance to Academic Insitutions Apply for Specific Byproduct Material Licenses of Limited Scope	12/76 (Amended 49 FR 32133)	1
10.3	Guide for the Preparation of Applications for Special Nuclear Material Licenses of Less Than Critical Mass Quantities	4/77	1
➤ 10.4	Guide for the Preparation of Applications for Licenses to Process Source Material	3/77 (Amended 49 FR 32133)	1
➤ 10.5	Applications for Type A Licenses of Broad Scope	1/81 (Amended 49 FR 32133)	1
10.6	Guide for the Preparation of Applications for Use of Sealed Sources and Devices for Performing Industrial Radiography	12/81	1
➤ 10.7	Guide for the Preparation of Applications for Licenses for Laboratory and Industrial Use of Small Quantities of Byproduct Material	8/79 (Amended 49 FR 32133)	1
10.8	Guide for the Preparation of Applications for Medical Programs *(comments requested by 3/23/79*	10/80	1
➤ 10.9	Guide for the Preparation of Applications for Licenses for the Use of Gamma Irradiators.	4/80 (Amended 49 FR 32133)	

UNITED STATES NUCLEAR REGULATORY COMMISSION
RULES and REGULATIONS

TITLE 10, CHAPTER 1, CODE OF FEDERAL REGULATIONS — ENERGY

GENERAL NOTICES

GENERAL NOTICES is a list of current notices of particular importance to NRC readers. They will be kept in the notebook for one year.

The first section, beginning on page GN-1, contains notices of significant interest issued by NRC.

The second section, beginning on page GN-51, cites notices and regulations published by other agencies relating to NRC functions.

In Situ Testing During Site Characterization for High-Level Nuclear Waste Repositories; Availability of Draft Technical Position

Published 10/10/84
49 FR 39763

The NRC is announcing the availability of a 'Draft Generic Technical Position on In Situ Testing During Site Characterization for High-Level Nuclear Waste Repositories.' The Nuclear Waste Policy Act of 1982, Pub. L. 97-425 (NWYPA) and Commission regulation 10 CFR Part 60 promote interaction between the DOE and NRC prior to submittal of a license application for a geologic repository. This announcement notices availability and solicits comments on the draft position. Guidance is provided to DOE on what the staff considers to be the essential elements of an in situ test program to address the requirements and performance objectives of 10 CFR Part 60 with respect to deep geologic disposal of high-level nuclear waste. The comment period expires 12/10/84.

49 FR 44337
Published 11/6/84
Comment period expires 12/10/84.

Issuance for Comment of Quality Assurance (QA) Guidance Related to Anticipated Transients Without Scram (ATWS) Equipment That Is Not Safety-Related

AGENCY: Nuclear Regulatory Commission.

ACTION: Request for comment.

SUMMARY: The NRC staff is issuing a proposed generic letter to all interested parties, including licensees of operating reactors, applicants for operating licenses, and holders of construction permits. This generic letter provides quality assurance (QA) guidance for non-safety-related equipment that is associated with 10 CFR 50.62, "Requirements for Reduction of Risk from Anticipated Transients Without Scram (ATWS) Events for Light-Water-Cooled Nuclear Power Plants." The final QA guidance is expected to be issued in February 1985 and is considered the reference date that initiates the schedule in 10 CFR 50.62(d).

DATE: The comment period expires December 10, 1984. Comments received after this date will be considered if it is practical to do so.

ADDRESSES: Send comments to: Mr. Stephen M. Goldberg; Qualilty Assurance Branch; Division of Quality Assurance, Safeguards, and Inspection Programs; Office of Inspection and Enforcement; U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

FOR FURTHER INFORMATION CONTACT: Stephen M. Goldberg; Quality Assurance Branch; Division of Quality assurance, Safeguards, and Inspection Programs; Office of Inspection and Enforcement; U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. telephone: 301–492–4968.

SUPPLEMENTARY INFORMATION: The following is the body of a proposed generic letter and an enclosure to the letter which is a table summarizing the QA guidance for non-safety-related ATWS equipment. This letter is to be addressed to all licensees of operating reactors, applicants for operating licenses, and holders of construction permits. This letter describes how this guidance was developed, its relationship to Appendix B to 10 CFR Part 50, and its use for meeting NRC QA requirements for non-safety-related ATWS equipment.

Letter

On June 1, 1984, the Commission approved publication of a final rule, 10 CFR 50.62 regarding the reduction of risk from anticipated transients without scram (ATWS) events for light-water cooled nuclear power plants (49 FR 26036). At the same time, the Commission directed the staff to complete and issue in the form of a generic letter explicit quality assurance (QA) guidance for non-safety-related equipment encompassed by the ATWS rule. Section 50.62(d) of the ATWS rule requires that each licensee develop and submit (to the Director of the Office of Nuclear Reactor Regulation) a proposed schedule for meeting the requirements of the rule within 180 days after issuance of the QA guidance.

To develop QA guidance for ATWS equipment that is not safety related, the NRC staff considered it necessary to survey QA practices applied to non-safety-related equipment at some operating nuclear power plants. During these plant visits, the NRC staff generally found that utility procedures were similarly applied for safety-related and non-safety-related equipment or activities (e.g., design modifications and procurement procedures). At some point in these utility procedures, QA practices for safety-related equipment or activities diverged from the practices employed for non-safety-related equipment or activities. As an example, design modifications to safety-related equipment required QA organizational involvement and design verification; design modifications to non-safety-related equipment required no design verification other than normal supervisory review and no QA organizational involvement. On the Basis of these plant visits, the NRC staff concluded that, as a general matter, the quality practices now applied to non-safety-related equipment would be adequate for non-safety-related equipment encompassed by the ATWS rule.

Licensees, applicants, and the NRC staff have the desire to minimize the proliferation of QA programs as opposed to the establishment of new and separate QA programs for non-safety-related equipment.

The practices that were observed during the plant visits were either to apply the 10 CFR Part 50, Appendix B program to non-safety-related equipment or to apply QA controls consistent with selected portions of their Appendix B program, although the utility procedures and practices did not specifically reference such controls as Appendix B requirements.

Because of familiarity of the staff and industry with Appendix B requirements and because of demonstrated industry preference, the staff has chosen to develop explicit guidance fort non-safety-related ATWS equipment by framing it in terms of Appendix B criteria. Accordingly, QA controls for non-safety-related ATWS equipment which meet Appendix B criteria except for those portions described below would fulfill NRC requirements:

- The QA organization is not required to participate in developing and implementing QA practices for this equipment, provided that normal supervisory controls exist to verify that the QA practices are being applied. Audits are not required, provided that line management periodically reviews the adequacy of the QA practices as one of its internal control functions.
- A new and separate QA program is not required provided that the licensees or applicants are committed to establish QA controls for this equipment by utility policy statements, by procedures, instructions, or directives, or by other suitable means. In addition, new or separate programs or measures are not required in the following areas:

—*Inspection*, provided that the line organization is responsible for determining inspection requirements and for assuring that sufficient inspections are performed.

—*Test Control*, provided that the line organization is responsible for determining test requirements and for assuring that sufficient testing is performed.

—*Nonconformances and corrective action*, provided that the line organization is responsible for controlling nonconformances, takes prompt action to correct conditions adverse to quality, and, as appropriate, implements measures to preclude repetition.

- Individuals outside the responsible design organization are not required to perform design verification (i.e., measures provided to verify or check the adequacy of the design by competent individuals or groups other than those who performed the original design). Instead, a design review by the designer's supervisor would be adequate.
- Contractors and subcontractors are not required to establish QA programs as a condition of the contract. The licensee's or applicant's QA controls for non-safety-related ATWS equipment become effective at the time the material or equipment is received at the plant. Contractors and subcontractors who perform services at the plant would be subject to the licensee's or applicant's QA controls for non-safety-related ATWS equipment.
- Documentation is not required to be available at the licensee's or applicant's plant to verify procedures were followed for the purposes of satisfying internal control requirements (i.e., documentation that verifies that receipt inspections were conducted need not be retained). However, documentation is required to verify that this equipment is designed, installed, tested, operated, and maintained so as to assure that the design specifications listed in the table published with the ATWS rule (49 FR 26036, pp. 26042–26043) have been met.

Enclosed with this letter is a summary of the QA guidance for non-safety-related ATWS equipment framed in the format of Appendix B to assist licensees and applicants.

In summary, the staff concludes that either the application of QA controls based on the guidance in this letter or the application of Appendix B requirements in their entirety is an acceptable method for satisfying NRC requirements. The staff anticipates that licensees and applicants will select an approach which does not result in the establishment of a new and separate QA program for such equipment.

Issuance of this QA guidance shall be considered the reference date initiating the schedule in 10 CFR 50.62(d).

The establishment of requirements under the ATWS rule was approved by the Office of Management and Budget under clearance number 3150–0111 which expires April 30, 1985 (49 FR 26036, p. 26044). Comments on burden and duplication may be directed to the Office of Management and Budget, Reports Management, Room 3208, New Executive Office Building, Washington, DC 20503.

Summary of the QA Guidance for Non-Safety-Related ATWS Equipment

Requirement and Guidance

I. Organization—None (QA organization not involved).

II. Program—None (no new or separate program required).

III. Design Control—Establish measures [1] to assure design specifications are included or correctly translated into design documents. Safety evaluations and reviews by designer's supervisor are required.

IV. Procurement Document Control—Establish measures to assure specifications and QA requirements are included in procurement documentation

V. Instructions, Procedures and Drawings—Establish measures for documenting the controls applied to activities that affect quality.

VI. Document Control—Establish measures to control issuance and changes to documents.

VII. Control of Purchased Items and Services—Establish measures at plant to assure that all purchases conform to procurement documents. Stores or warehouse personnel or engineers may perform this verification.

VIII. Identification and Control of Purchased Items—Establish measures to identify and control purchased items (i.e., traceability from receipt at the plant).

IX. Control of Special Processes—Establish measures to control special processes on the basis of codes, standards, and other requirements.

X. Inspection——Establish measures to inspect activities affecting quality. Verify conformance to documentation. Accomplish inspection by trained personnel who did not perform the work.

XI. Test Control—Establish measures to test non-safety-related ATWS equipment prior to installation and operation and periodically. Document and evaluate results.

XII. Control of Measuring and Testing Equipment—Establish measures to control, calibrate, and adjust measuring and test equipment at specific intervals.

XIII. Handling, Storage, and Shipping—Establish measures to control handling, storage, shipping, cleaning, and preservation of purchases in accordance with utility documentation and manufacturer's recommendations.

XIV. Inspection, Test, and Operating Status—Establish measures to indicate status of inspection, test and operability of installed non-safety-related ATWS equipment.

XV. Nonconformances—Establish measures to identify nonconformances.

XVI. Corrective Action System—Establish measures for prompt correction of conditions which are adverse to quality (i.e., nonconformances). Establish measures, if appropriate, to preclude repetition.

XVII. Records—Establish measures to maintain and control records which furnish evidence that system specifications described in the table of the ATWS rule have been met.

XVIII. Audits—None (audits not required if line management reviews adequacy of QA controls).

Dated at Bethesda, Maryland this 31st day of October 1984.

For the Nuclear Regulatory Commission.

James M. Taylor,

Deputy Director, Office of Inspection and Enforcement.

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[1] Except for design control, where the utility is responsible for ensuring that design control measures are applied at contractor or subcontractor organizations, the term "establish measures" applies to activities within the licensee's or applicant's organization, only. Also, the term "measures" is used synonymously with the term "controls" that appears in the latter itself.

49 FR 44693
Published 11/8/84

Availability of Site-Specific Procedural Agreement

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of availability.

SUMMARY: The Nuclear Regulatory Commission (NRC) is announcing the availability of a DOE/NRC Site-Specific Procedural Agreement for geologic repository site investigation and characterization programs.

ADDRESS: This document is available in the NRC Public Document Room, 1717 H Street, N.W., Washington, D.C., Telephone (202) 634–3273, in Project File WM–1.

FOR FURTHER INFORMATION CONTACT: Hubert J. Miller, Chief, Repository Projects Branch, Division of Waste Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone (301) 427–4177.

SUPPLEMENTARY INFORMATION: On September 7, 1984, an agreement was signed between the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE) entitled "Agreement Between the Department of Energy's Office of Geologic Repositories Projects (BWIP, NNWSI, SRP, CRP) and the Nuclear Regulatory Commission's Division of Waste Management During the Site Investigation and Characterization Programs and Prior to the Submittal of an Application for Authorization to Construct a Repository." This agreement implements, on a project-specific basis, the Procedural Agreement made Between the NRC and DOE. The NRC/DOE Procedural Agreement, entitled "Procedural Agreement between the U.S. Nuclear Regulatory Commission and the U.S. Department of Energy Identifying Guiding Principles for Interface During Site Investigation and Site Characterization," was published in the **Federal Register** on August 25, 1983 (48 FR 38701). The site/specific agreement supersedes all previous project-specific agreement(s) between the NRC's Division of Waste Management and DOE's Office of Geologic Repositories regarding information exchange and consultation for potential repository sites. This agreement implements section 6 of the DOE/NRC Procedural Agreement which requires that project-specific agreements, tailored to the specific project and reflecting differences in sites and project organizations, be negotiated to implement the principles established in the Procedural Agreement.

Dated at Silver Spring, Maryland, this 1st day of November 1984.

For the Nuclear Regulatory Commission.

John J. Linehan,

Acting Chief, Repository Projects Branch, Division of Waste Management.

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49 FR 44694
Published 11/8/84
Comment period expires 1/7/85.

Waste Package Reliability; Availability of Draft Technical Position

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of Availability.

SUMMARY: The Nuclear Regulatory Commission (NRC) has completed the draft generic technical position, "NRC Draft Generic Technical Position: Waste Package Reliability."

DATE: The comment period expires January 7, 1985.

ADDRESSES: Send comments to Hubert J. Miller, Chief, Repository Projects Branch, Division of Waste Management, U.S. Nuclear Regulatory Commission, Mail-Stop 623–SS, Washington, D.C. 20555. Copies of this document may be obtained free of charge upon written request to Nancy Still, Docket Control Center, Division of Waste Management, U.S. Nuclear Regulatory Commission, Mail Stop 623–SS, Washington, D.C. 20555, (301) 427–4426.

FOR FURTHER INFORMATION CONTACT: Dr. Timothy C. Johnson, Section Leader, Engineering Branch, Division of Waste Management, U.S. Nuclear Regulatory Commission, Mail Stop 623–SS, Washington, D.C. 20555, Telephone Number (301) 427–4088.

SUPPLEMENTARY INFORMATION: The Nuclear Waste Policy Act 1982 (Pub. L. 97–425) and Commission Regulation 10 CFR Part 60 promote interaction between Department of Energy (DOE) and NRC prior to submittal of a license application for a geologic repository. These interactions are to fully inform DOE about the level of information that must be provided in a license application so as to allow a licensing decision to be made by the NRC.

The principal mechanism for providing guidance to the DOE is completion by the NRC staff of Site Characterization Analyses (SCA's) which document staff reviews of DOE Site Characterization Plans (SCP's) submitted according to the Nuclear Waste Policy Act and 10 CFR Part 60. Additional means have been developed to supplement the guidance provided in the SCA's. These include staff technical positions on both generic and site specific issues. Generic Technical Positions establish the staff's position on broad technical issues that would be applicable to any site. Site Technical Positions establish the staff's position on a site specific technical issue.

Staff technical positions will be issued in a manner intended to provide the NRC staff with the benefit of outside comment. At an appropriate stage in the development of each technical position, notice of availability will be published in the **Federal Register** and copies will be placed in the Public Document Rooms and distributed to DOE, host states and potentially affected tribes for comment. Interested members of the general public will be able to obtain copies upon request and will be encouraged to comment. At the close of the comment period (normally 60 days), the staff will consider the comments received and issue a final position.

This announcement is a notice of availability of a Generic Technical Position (GTP) and solicits comments on the draft GTP, "NRC Generic Technical Position: Waste Package Reliability." In the GTP, the NRC staff describes a method that it would consider acceptable for demonstrating that the waste package will meet the performance objectives and design criteria of 10 CFR Part 60. The method includes performing a quantitative reliability analysis of the waste package.

Principles to be followed in performing such a quantitative reliability analysis are discussed. The staff considers that the guidance should provide an approach that will help guide the detailed decisions regarding waste package design and analysis that must be made in the future by DOE.

Dated at Silver Spring, Maryland, this 31st day of October 1984.

For the Nuclear Regulatory Commission.

John J. Linehan,

Section Leader, Repository Projects Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards.

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49 FR 45278
Published 11/15/84
Comment period expires 1/14/85.

Availability of Draft Issue-Oriented Site Technical Positions in the High-Level Waste Program

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of Availability.

SUMMARY: The Nuclear Regulatory Commission is announcing the availability of Issue-Oriented Site Technical Positions (ISTPs) for the following potential geologic repository sites:

- Basalt Waste Isolation Project (BWIP)
- Nevada Nuclear Waste Storage Investigations (NNWSI)

- Salt Repository Project (SRP)

  Permian Basin Sites
  Paradox Basin Sites
  Gulf Coast Dome Sites

The ISTPs address site issues in the areas of geology/geophysics, waste package, geologic repository operations area design/rock mechanics, hydrology, and geochemistry.

DATE: The comment period expires January 14, 1985.

ADDRESSES: Send comments to Hubert J. Miller, Chief, Repository Projects Branch, Division of Waste Management, U.S. Nuclear Regulatory Commission, Mail-Stop 623–SS, Washington, D.C. 20555. Copies of these documents may be obtained free of charge upon written request to Nancy Still, Docket Control Center, Division of Waste Management, U.S. Nuclear Regulatory Commission, Mail-Stop 623-SS, Washington, D.C. 20555, Telephone 1–800–368–5642, Ext. 74426 or 427–4426 for Washington area callers.

FOR FURTHER INFORMATION CONTACT: Hubert J. Miller, Chief, Repository Projects Branch, Division of Waste Management, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Telephone (301) 427–4177.

SUPPLEMENTARY INFORMATION: The Nuclear Waste Policy Act of 1982, Pub. L. 97–425, (NWPA) and Commission Regulation 10 CFR Part 60 promote consultation between the Department of Energy (DOE) and NRC prior to submittal of a license application for a geologic repository. These pre-licensing consultations are to fully inform DOE about the level of information that must be provided in a license application to allow a licensing decision to be made by NRC. Guidance to DOE will be provided in NRC Site Characterization Analyses (SCAs) which document staff reviews of DOE Site Characterization Plans to be submitted according to the NWPA and 10 CFR Part 60. Supplementary guidance is presented in staff technical positions on both generic and site-specific issues.

The Issue-Oriented Site Technical Positions noticed in this announcement identify and present the rationales for the detailed technical questions (licensing issues) that must be addressed prior to licensing for each of several potentially acceptable sites that have been identified by DOE.

This will allow a determination of site and design suitability in terms of 10 CFR Part 60. They have been developed through a systematic and comprehensive assessment of the overall geological repository system and its components and, based on current knowledge, identify those site issues that the NRC staff considers will be needed as a minimum to address 10 CFR Part 60, Subpart E.

Although submission of a license application by DOE is not expected for several years, these ISTPs are being issued at this early stage of the prelicensing consultation and guidance process for several reasons:

(1) The issues presented will serve as a set of benchmarks against which the NRC staff can independently review the relevance and completeness of issues identified by DOE in the Site Characterization Plans (SCPs).

(2) The issues provide a systematic structure for staff guidance to DOE for tracking the progress toward addressing staff concerns about licensing throughout the site characterization process. The intent is to establish a tracking system which ties together all of the various documents that are pertinent to a given issue.

(3) Finally, the issues provide a systematic and logical framework for NRC staff to organize the ultimate task of assessing geologic repository performance and compliance with criteria of 10 CFR Part 60.

The ISTPs will be followed by more detailed Site Technical Positions (STPs) which address one or more specific licensing issues. Items to be addressed in STPs include specific data information needs, methods of data collection and analyses, and treatment of uncertainties.

This announcement provides notice of availability and solicits comments on the aforementioned draft Issue-Oriented Site Technical Positions.

Dated at Silver Spring, Maryland, this 2nd day of November 1984.

For the Nuclear Regulatory Commission.

John J. Linehan,

Acting Chief, Repository Projects Branch, Division of Waste Management.

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49 FR 45279
Published 11/15/84

Availability of Technical Position in High-Level Waste Program

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of Availability.

SUMMARY: The Nuclear Regulatory Commission (NRC) has completed a technical position on the "Determination of Radionuclide Solubility in Groundwater for Assessment of High-level Radionuclide Waste isolation."

ADDRESS: Copies of this document may be obtained free of charge upon written request to Nancy Still, Docket Control Center, Division of Waste Management, U.S. Nuclear Regulatory Commission, Mail Stop 623–SS, Washington, DC 20555, Telephone 1 (800) 368–5642, Ext. 74426, or 427–4426 for Washington, DC callers.

FOR FURTHER INFORMATION CONTACT: John W. Bradbury, Project Manager, Geotechnical Branch, Division of Waste Management, U.S. Nuclear Regulatory Commission, Washington, DC 20555 Telephone No. (301) 427–4055.

SUPPLEMENTARY INFORMATION: The Nuclear Waste Policy Act of 1982, Pub. L. 97–425, (NWPA) and Commission regulation 10 CFR Part 60 promote interaction between the Department of Energy (DOE) and NRC prior to submittal of a license application for a geologic repository. These interactions are to fully inform DOE about the level of information that must be provided in a license application to allow a licensing decision to be made by NRC. Guidance to DOE is provided in NRC Site Characterization Analyses (SCA's) which document staff reviews of DOE Site Charaterization Plans submitted according to the NWPA and 10 CFR Part 60. On selected key issues important to repository performance, the staff will be addressing generic concerns in technical positions. The intent of the staff is to ensure that guidance is provided to DOE at an early time and thus ensure that the DOE gathers needed data in site characterization programs.

This technical position is one in a series of technical positions prepared by the NRC staff establishing what should be achieved by DOE in investigation programs at potential repository sites. The purpose of this technical position is to provide guidance concerning an acceptable strategy for obtaining data on radionuclide solubility. The NRC staff considers that the approach used for determining the solubility of radionuclides which will be present in a high level waste repository is key to providing the data needed for predicting long term repository performance.

Dated at Silver Spring, Maryland, this 2nd day of November 1984.

For the Nuclear Regulatory Commission.

R. John Starmer,

Acting Branch Chief, Geotechnical Branch, Division of Waste Management, NMSS.

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50 FR 9143
Published 3/6/85

Three Mile Island Unit 2 Cleanup; Progress Information

AGENCY: Nuclear Regulatory Commission.

ACTION: Information notice.

SUMMARY: The Commission is issuing this Information Notice to provide its views on the status of both the cleanup

of Three Mile Island, Unit 2 (TMI–2), and the funding situation for that cleanup. As explained below, although the cleanup has not proceeded as expeditiously as the Commission would have hoped, the Commission finds that at this time General Public Utilities Nuclear ("GPUNC" or "licensee") is making reasonable progress in accomplishing cleanup objectives, and there appears to be reasonable assurance that there will be adequate funding for the cleanup for the next several years.

FOR FURTHER INFORMATION CONTACT: Dr. Bernard J. Snyder, Director, Three Mile Island Program Office, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492–7761.

SUPPLEMENTARY INFORMATION: The accident at TMI–2 on March 28, 1979 resulted in substantial damage to the reactor core and to certain reactor systems and components, and the facility was contaminated with a large amount of radioactive material. Although the facility is presently in a safe shutdown condition, the core is in a condition and configuration for which it was not designed. Hence it is important that the cleanup proceed as promptly as safety considerations will permit, and to this end the Commission has been closely monitoring the licensee's progress and future plans.

In August 1980 the licensee informed the Commission that removal of the reactor vessel head, the first significant step in reactor defueling, would be accomplished by June 1982, containment building decontamination would be completed by December 1983, and reactor fuel removal finished by April 1984. In July 1981 the licensee revised its schedule and estimated that the reactor fuel would be removed by February 1985, and containment building decontamination would be completed by August 1986, with less significant cleanup activities continuing past that date. The licensee's December 1982 schedule estimated reactor head removal by June 1986, and completion of containment building decontamination by March 1988. The licensee's latest estimate, dated July 2, 1984, provided the staff with a revised that provides for a schedule target date for the completion of reactor fuel removal from the primary system by June of 1987.

This most recent schedule depends, in part, on adequate funding. The funding for the cleanup as proposed by Pennsylvania Governor Richard Thornburgh—the Thornburgh Plan—provides that funding will come from the utility industry, ratepayers, and the Federal and State governments. While funding by the taxpayers and Federal and State governments has been in place for several years, until recently no significant funds have been forthcoming from the industry.

The Commission was becoming increasingly concerned with both the pace of the cleanup and the possibility that funding shortfalls might even further slow down that effort. The Commission expressed its concerns regarding the cleanup in a May 30, 1984 meeting with the independent Advisory Panel for the Decontamination of TMI–2. At that meeting, the Commission stated that it would explore options the agency has for expediting the cleanup, including issuing an order directing the licensee to complete the cleanup by a set date.

Accordingly, in June 1984, the Commission directed the NRC staff to explore means to expedite the cleanup effort. This endeavor included consideration of alternative methods to accomplish the cleanup as well as actions that would compel the licensee to complete specific cleanup milestones by specified dates.

Several significant events occurred while this effort was underway. The Edison Electric Institute (EEI) renewed efforts to secure industry contributions. In a letter dated September 5, 1984, EEI informed the Commission that, beginning in 1985 for a period of six years, an EEI program will contribute $25 million annually to the cleanup of TMI–2 for a total of $150 million. These funds would be provided by EEI member companies on a volunteer basis, and, to the extent necessary, Pennsylvania and New Jersey electric utilities have agreed to provide research and development grants each year in an amount to maintain an annual funding level of $25 million per year for this program.

On December 28, 1984, GPUNC received a check from EEI for $10.9 million which represents partial payment on the $25 million 1985 commitment. The NRC staff was informed that three additional 1985 quarterly payments, each of $4.7 million, will be made to GPUNC on April 1, July 1, and October 1, 1985. These three payments are in the form of supplement research and development grants from six Pennsylvania and New Jersey utilities. The industry's share of the cleanup funds appears as reasonably assured as the other sources of funding. Also at the end of December the State of New Jersey provided a check for $3.7 million representing the State's appropriations for the cleanup for 1984 and 1985. GPUNC expects that the State of New Jersey will appropriate an additional $1.8 million per year for four more years after 1985.

In late 1983 the upper GPUNC management structure responsible for the cleanup began and a new management structure responsible for the cleanup was assembled. Concurrently, progress in the cleanup began to improve, and in February 1984 the polar crane test was successfully conducted. Five months later a significant milestone in the progress of the cleanup was reached when the reactor pressure vessel head was removed. Recently, in December 1984, the reactor vessel plenum was jacked up 7½ inches allaying fears that it may be stuck and require cutting to remove. Removal of the plenum, scheduled in May 1985, represents the last major hurdle prior to fuel removal operations. The licensee's management has informed the Commission that they are committed to accelerate the pace of the cleanup with the goal of conforming to the December 1982 schedule by the end of 1986.

The Commission finds that in view of these events it is not necessary at this time to consider alternative methods to expedite the cleanup or to seek more assurances of funding. Although the Commission has been disappointed by the earlier pace of the cleanup, the Commission believes that the licensee is now making reasonable progress toward accomplishing cleanup objectives, and that the funding situation is as assured as reasonably possible.

Commissioner Asselstine would have issued an enforceable order setting out a schedule for completion of TMI–2 cleanup which could only be modified for good cause.

Although the Commission has decided to take no action at this time, the Commission will continue to monitor closely both the licensee's progress in completing the cleanup and the funding situation. Should conditions change in a manner that could significantly impact the pace of the cleanup, the Commission will promptly reconsider the necessity of taking whatever action is deemed appropriate to ensure adequate protection of the public health and safety.

Dated at Washington, DC this 1st day of March, 1985.

For the Nuclear Regulatory Commission.

Samuel J. Chilk,

Secretary of the Commission.

≫50 FR 27075
Published 7/1/85

Governors' Designees Receiving Advance Notification of Transportation of Nuclear Waste

On January 6, 1982, the Nuclear Regulatory Commission (NRC) published in the **Federal Register**, as final, certain amendments to 10 CFR Parts 71 and 73 (effective July 6, 1982), which require advance notification to Governors or their designees concerning transportation of certain shipments of nuclear waste and spent fuel. The advance notification covered in Part 73 is for spent nuclear reactor fuel shipments and the notification for Part 71 is for large quantity shipments of radioactive waste (and of spent nuclear reactor fuel not covered under the final amendment to 10 CFR Part 73).

The following list updates the names, addresses and telephone numbers of those individuals in each State who are responsible for receiving information on nuclear waste shipments. The list will be published annually in the Federal Register on or about June 30, to reflect any changes in information.

Questions regarding this matter should be directed to Mindy Landau at (301) 492–9880.

Dated at Bethesda, Maryland this 14th day of June, 1985.

For the Nuclear Regulatory Commission.

G. Wayne Kerr,

Director, Office of State Programs.

June 1985.

INDIVIDUALS RECEIVING ADVANCE NOTIFICATION OF NUCLEAR WASTE SHIPMENTS

States	Part 71	Part 73
Alabama	Col. Byron Prescott, Director, Alabama Department of Public Safety, P.O. Box 1511, Montgomery, AL 36192-0501, (205) 261–4378.	Same.
Alaska	Mr. Bill Ross, Commissioner, Alaska Department of Environmental Conservation, Pouch O, Juneau, AK 99811, (907) 465–2600.	Same.
Arizona	Charles F. Tedford, Director, Arizona Radiation Regulatory Agency, 925 South 52nd Street, Suite 2, Temple, AZ 85281, (602) 255–4845. After hours: (602) 898–4662.	Same.
Arkansas	E.F. Wilson, Director, Radiation Control and Emergency Management Programs, Arkansas Department of Health, 4815 West Markham Street, Little Rock, AR 72201, (501) 661-2301. After hours: (501) 661–2136 or 661–2000.	Same.
California	L.M. Short, Chief, California Highway Patrol, P.O. Box 898, Sacramento, CA 95804 (916) 445–6211	Same.
Colorado	Captain Lonnie J. Westphal, Officer in Charge, Staff Services Branch, Colorado State Patrol, 1325 South Colorado Boulevard, Building 700B, Denver, CO 80222, (303) 691–8107. After hours: (303) 757–9422.	Same.
Connecticut	The Honorable Stanley J. Pac, Commissioner, Department of Environmental Protection, State Office Building, 165 Capitol Avenue, Hartford, CT 06106, (203) 566–2110.	Same.
Delaware	Edward J. Steiner, Secretary, Department of Public Safety, Highway Administration Building, P.O. Box 818, Dover, DE 19903, (302) 736–4321.	Same.
Florida	Harlan Keaton, Public Health Physicist Manager, Office of Radiation Control, Department of Health and Rehabilitative Services, P.O. Box 15490, Orlando, FL 32858, (305) 299–0580.	Same.
Georgia	Ken M. Copeland, Director of the Office of Permits and Enforcement, Georgia Department of Transportation, 940 Virginia Avenue, Hapeville, GA 30354, (404) 656–5435.	Same.
Hawaii	Melvin K. Koizumi, Deputy Director for Environmental Health, Department of Health, P.O. Box 3378, Honolulu, HI 96813, (808) 548–4139.	Same.
Idaho	Robert D. Funderburg, Manager, Radiation Control Section, Department of Health and Welfare, Division of Environment, 450 West State, 5th Floor, Statehouse, Boise, ID 83720, (208) 334–4107. After hours: (208) 362–5260.	Same.
Illinois	Dr. Terry Lash, Director, Illinois Department of Nuclear Safety, 1035 Outer Park Drive, 5th Floor, Springfield, IL 62704, (217) 546–8100.	Same.
Indiana	John T. Shettle, Superintendent, Indiana State Police, 301 State Office Building, 100 North Senate Avenue, Indianapolis, IN 46204, (317) 232–8248 (24 hours).	Same.
Iowa	John D. Crandall, Director, Office of Disaster Services, Hoover State Office Building, Des Moines, IA 50319, (515) 281–3231.	Same.
Kansas	Leon H. Mannell, P.E. Administrator, Radiological Systems, The Adjutant General's Department, Division of Emergency Preparedness, P.O. Box C–300, Topeka, KS 66601, (913) 233–9253, Ext. 321.	Same.
Kentucky	Donald R. Hughes, Sr., Supervisor, Radiation Control Department for Health Services, 275 East Main Street, Frankfort, KY 40621, (502) 564–3700.	Same.
Louisiana	Col. Wiley D. McCormick, Head, Lousiana State Police, 265 South Foster Drive, P.O. Box 66614, Baton Rouge, LA 70896, (504) 925–6117.	Same.
Maine	Chief of the State Police Maine Department of Public Safety, Statehouse—Station No. 42, Augusta, ME 04333, (207) 289–2155.	Same.
Maryland	Lt. Colonel Frank Mazzone, Chief, Field Operations Bureau, Maryland State Police, 1201 Reisterstown Road, Pikesville, MD 21208, (301) 486–3101.	Same.
Massachusetts	Robert M. Hallisey, Director, Radiation Control Program, Massachusetts Department of Public Health, 150 Tremont Street, 7th Floor, Boston, MA 02111, (617) 727–6214.	Same.
Michigan	James E. Cox, Captain, Commanding Officer, Operations Division, Michigan Department of State Police, 714 South Harrison Road, East Lansing, MI 48823 (517) 337–6100.	Same.
Minnesota	Deidre M.A. Krause, Operations Officer, Minnesota Division of Emergency Services, B5 State Capitol, St. Paul, MN 55155, (612) 296–0453. After hours: (612) 778–0800.	Same.
Mississippi	James E. Maher, Director, Mississippi Emergency Management Agency, P.O. Box 4501, Fondren Station, Jackson, MS 39216, (601) 352-9100.	Same.
Missouri	Richard D. Ross, Director, State Emergency Management Agency, 1717 Industrial Drive, P.O. Box 116, Jefferson City, MO 65102, (314) 751–2321. After hours: (314) 751–2748.	Same.
Montana	Mr. Larry Lloyd, Chief, Occupational Health Bureau, Department of Health and Environmental Sciences, Room A113, Cogswell Building, Helena, MT 59620, (406) 444–3671.	Mr. George DeWolf, Administrator, Disaster and Emergency Services Division, 1100 North Last Chance Gulch, Helena, MT 59601, (406) 444–6111.
Nebraska	Col. Elmer J. Kohmetscher, Superintendent, Nebraska State Patrol, P.O. Box 94907, State House, Lincoln, NE 68509, (402) 471–2406 or (402) 471–4545.	Same.
Nevada	John Vaden, Supervisor, Radiological Health Section, Bureau of Regulatory Health Services, Nevada Division of Health, 505 East King Street, Room 202, Carson City, NV 89710, (702) 885–5394.	Same.
New Hampshire	Lt. Paul Richardson, Supervisor, Communications Section, Division of State Police, New Hampshire Department of Safety, James H. Hayes Building, Hazen Drive, Concord, NH 03301, (603) 271–3636.	Same.
New Jersey	Frank Cosolito, Special Assistant, Division of Environmental Quality, Room 1109, CN–027, Trenton, NJ 08625, (609) 984–1503.	Same.
New Mexico	Ken Hargis, Chief, Radiation Protection Bureau, Health and Environment Department, P.O. Box 968, Santa Fe, NM 87504–0968, (505) 984–0020, ext. 279. After hours: (505) 471–0121.	Same.
New York	Donald A. Devito, Director, State Emergency Management Office, Division of Military and Naval Affairs, Public Security Building, State Campus, Albany, NY 12226, (518) 457–2222.	Same.

INDIVIDUALS RECEIVING ADVANCE NOTIFICATION OF NUCLEAR WASTE SHIPMENTS—Continued

States	Part 71	Part 73
North Carolina	Lt. Walter K. Chapman, Operations Officer, North Carolina Highway Patrol Headquarters, P.O. Box 27687, Raleigh, NC 27611, (919) 733-4030. After hours: (919) 733-3861.	Same
North Dakota	Dana K. Mount, Director, Division of Environmental Engineering, North Dakota State Department of Health, 1200 Missouri Avenue, Room 304, Box 5520, Bismarck, ND 58502-5520, (701) 224-2348. After hours: 1-800-472-2121.	Same
Ohio	James R. Williams, Chief of Staff, Disaster Services Agency, 2825 Granville Road, Worthington, OH 43085, (614) 889-7157.	Same
Oklahoma	The Honorable Paul W. Reed, Jr., Commissioner of Public Safety, Oklahoma Department of Public Safety, 3600 North Eastern Avenue, Oklahoma City, OK 73111, (405) 424-4011.	Same
Oregon	William T. Dixon, Administrator Siting and Regulation, Oregon Department of Energy, 102 Labor and Industries Building, Salem, OR 97310, (503) 378-6469.	Same
Pennsylvania	George M. Johnson, Director, Repsonse and Recovery, Pennsylvania Emergency Management Agency, P.O. Box 3321, Harrisburg, PA 17105 (717) 783-8150. After hours: (717) 783-8150.	Same
Rhode Island	William A. Maloney, Associate Administrator Motor Carriers, Division of Public Utilities and Carriers, 100 Orange Street, Providence, RI 02903, (401) 277-3500.	Same
South Carolina	Heyward G. Shealy, Chief, Bureau of Radiological Health, South Carolina Department of Health and Environmental Control, 2600 Bull Street, Columbia, SC 29201, (803) 758-7806. After hours: (803) 758-5531.	Same
South Dakota	Robert D. Gunderson, Division Director, Emergency and Disaster Services, Capitol Building, Basement, Pierre, SD 57501, (605) 773-3231.	Same
Tennessee	John White, Assistant Deputy Director, Tennessee Emergency Management Agency, State Emergency Operations Center, 3041 Sidco Drive, Nashville, TN 37204, (615) 252-3300. After hours: 1-800-258-3300.	Same
Texas	Dr. Robert Bernstein, Commissioner, Texas Department of Health, Bureau of Radiological Health, 1100 West 49th Street, Austin, TX 78756, (512) 458-7375.	Col. James B. Adams, Director, Texas Department of Public Safety, 5805 North Lamar, Austin, TX 78752, (512) 465-2000.
Utah	Larry F. Anderson, Director, Bureau of Radiation Control, State Office Building, Room 3253, P.O. Box 45500, Salt Lake City, UT 84145-0500 (801) 533-6734.	Same
Vermont	Patrick J. Garahan, Secretary, Vermont Agency of Transportation, 133 State Street, Montpelier, VT 05602, (802) 828-2657.	Same
Virginia	Michael M. Cline, Deputy Director, Operations Division, Department of Emergency Services, Commonwealth of Virginia, 310 Turner Road, Richmond, VA 23225, (804) 323-2300.	Same
Washington	Curtis P. Eschels, Chairman, Energy Facility Site Evaluation Council, Mail Stop PY-11, Olympia, WA 98504, (206) 459-6490.	Same
West Virginia	Colonel W.F. Donohoe, Superintendent, Department of Public Safety, 725 Jefferson Road, South Charleston, WV 25309, (304) 746-2111.	Same
Wisconsin	Carol Z. Homersbach, Administrator, State of Wisconsin/Division of Emergency Government, 4802 Sheboygan Avenue, Room 99A, P.O. Box 7865, Madison, WI 53707, (608) 266-3232.	Same
Wyoming	Julius E. Haas, Jr., Chief, Radiological Health Services, Department of Health and Social Services, Hathaway Building, Cheyenne, WY 82002 (307) 777-7956.	Same
District of Columbia	Herbert T. Wood, Ph.D., Senior Public Health Advisor, Department of Consumer and Regulatory Affairs, Room 1014, 614 H Street, NW., Washington, DC 20001, (202) 727-7190. After hours: (202) 529-3349.	Same
Puerto Rico	Santos Rohena, Jr., Chairman, Environmental Quality Board, P.O. Box 11488, Santurce, PR 00910, (809) 722-1175 or (809) 725-5140.	Same
Guam	James B. Branch, Administrator, Guam Environmental Protection Agency, P.O. Box 2999, Agana, Guam 96910, (671) 646-7579.	Same
Trust Territory of the Pacific Islands	R. Kent Harvey, Attorney general, Trust Territory of the Pacific Islands, Saipan, CM 96950, Saipan 9325 or 9364.	Same
Virgin Islands	Hon. Juan Luis, Governor, Government House Charlotte Amalie, St. Thomas, Virgin Islands 00801, (809) 774-0001.	Same
American Samoa	Hon. Peter Coleman, Governor of American Samoa, Territorial Capitol, Pago Pago, American Samoa 96799, 633-4116.	Same
Commonwealth of the Northern Mariana Islands	Nicolas M. Leon Guerrero, Director, Department of Natural Resources, Commonwealth of Northern Mariana Islands Government, Saipan, CM 96950, No. 9830 or No. 9834.	Same

FEDERAL EMERGENCY MANAGEMENT AGENCY

STATE AND LOCAL GOVERNMENTS' RADIOLOGICAL EMERGENCY RESPONSE PLANS

For continued operation of nuclear power plants, the Nuclear Regulatory Commission requires approved licensee and State and local governments' radiological emergency response plans. Following is a list of plans various states submitted to FEMA for approval.

Arizona
Published 1/11/83
48 FR 1226
Published 8/27/84
49 FR 33937

Arkansas
Published 3/9/82
47 FR 10077

California
Published 1/20/84
49 FR 2528
Withdrawn 2/13/84
49 FR 5380

Connecticut
Published 10/5/84
49 FR 39385
Published 10/23/84
49 FR 42630

Colorado
Published 3/9/82
47 FR 10077

Delaware
Published 4/29/82
47 FR 18428

Florida
Published 9/27/83
48 FR 44109
Published 2/22/84
49 FR 6558

Illinois
Published 6/16/82
47 FR 26024
Published 2/15/83
48 FR 6774
Published 3/9/84
49 FR 9020
Published 5/4/84
49 FR 19144
Published 9/19/84
49 FR 36688

Iowa
Published 9/22/81
46 FR 46834
Published 11/10/81
46 FR 55561
Published 8/26/83
48 FR 38900
Published 5/17/84
49 FR 20907

➢ **Kansas**
Published 7/12/85
50 FR 28471

Louisiana
Published 12/30/81
46 FR 63125
Published 1/19/84
49 FR 2303
Published 2/29/84
49 FR 7450
➢ Published 7/23/85
50 FR 30011

Maine
Published 7/13/81
46 FR 35986

Maryland
Published 8/19/82
47 FR 36289
➢ Published 6/21/85
50 FR 25784

Massachusetts
Published 7/13/81
46 FR 35987
Published 3/16/83
48 FR 11162
(2 notices)

Michigan
Published 5/20/83
48 FR 22795
Published 10/11/83
48 FR 46098

Minnesota
Published 2/14/85
50 FR 6248
Published 5/24/85
50 FR 21505

Missouri
Published 7/12/84
49 FR 27211
➢ Published 7/16/85
50 FR 28841

Nebraska
Published 7/12/84
49 FR 27211
Published 12/3/84
49 FR 47929

New Hampshire
Published 5/4/83
48 FR 20136

New Jersey
Published 3/15/82
47 FR 11108
Published 8/9/83
48 FR 36195

New York
Published 8/10/81
46 FR 40578
Published 9/22/81
46 FR 46834
(2 notices)
Published 2/8/85
50 FR 5426

North Carolina
Published 8/24/81
46 FR 42766
Published 3/29/82
47 FR 13212
Published 10/1/84
49 FR 38704

Ohio
Published 7/26/84
49 FR 30118

Oregon
Published 8/19/82
47 FR 36288

Pennsylvania
Published 1/15/82
47 FR 2404
Published 2/10/84
49 FR 5190
Published 4/12/85
50 FR 14453
➢ Published 7/23/85
50 FR 30011

South Carolina
Published 1/7/82
47 FR 852
Published 6/9/82
47 FR 25054
Published 3/14/83
48 FR 10749
Published 10/1/84
49 FR 38704

➢ **Tennessee**
Published 7/26/85
50 FR 30521

Texas
Published 11/10/81
46 FR 55561
➢ Published 7/23/85
50 FR 30011

Virginia
Published 11/10/81
46 FR 55561
Published 3/4/83
48 FR 9370
(2 notices)

West Virginia
Published 11/3/83
48 FR 50792

Wisconsin
Published 5/7/84
49 FR 19410
Published 8/8/84
49 FR 31768
Published 5/24/85
50 FR 21506
(2 notices)
Published 6/20/85
50 FR 25625

Radiation Protection Guidance
for Federal Agencies

Federal Radiation Council

Published 5/18/60
25 FR 4402

FEDERAL RADIATION COUNCIL

RADIATION PROTECTION GUIDANCE FOR FEDERAL AGENCIES

Memorandum for the President

Pursuant to Executive Order 10831 and Public Law 86–373, the Federal Radiation Council has made a study of the hazards and use of radiation. We herewith transmit our first report to you concerning our findings and our recommendations for the guidance of Federal agencies in the conduct of their radiation protection activities.

It is the statutory responsibility of the Council to "* * * advise the President with respect to radiation matters, directly or indirectly affecting health, including guidance for all Federal agencies in the formulation of radiation standards and in the establishment and execution of programs of cooperation with States * * *"

Fundamentally, setting basic radiation protection standards involves passing judgment on the extent of the possible health hazard society is willing to accept in order to realize the known benefits of radiation. It involves inevitably a balancing between total health protection, which might require foregoing any activities increasing exposure to radiation, and the vigorous promotion of the use of radiation and atomic energy in order to achieve optimum benefits.

The Federal Radiation Council has reviewed available knowledge on radiation effects and consulted with scientists within and outside the Government. Each member has also examined the guidance recommended in this memorandum in light of his statutory responsibilities. Although the guidance does not cover all phases of radiation protection, such as internal emitters, we find that the guidance which we recommend that you provide for the use of Federal agencies gives appropriate consideration to the requirements of health protection and the beneficial uses of radiation and atomic energy. Our further findings and recommendations follow.

Discussion. The fundamental problem in establishing radiation protection guides is to allow as much of the beneficial uses of ionizing radiation as possible while assuring that man is not exposed to undue hazard. To get a true insight into the scope of the problem and the impact of the decisions involved, a review of the benefits and the hazards is necessary.

It is important in considering both the benefits and hazards of radiation to appreciate that man has existed throughout his history in a bath of natural radiation. This background radiation, which varies over the earth, provides a partial basis for understanding the effects of radiation on man and serves as an indicator of the ranges of radiation exposures within which the human population has developed and increased.

The benefits of ionizing radiation. Radiation properly controlled is a boon to mankind. It has been of inestimable value in the diagnosis and treatment of diseases. It can provide sources of energy greater than any the world has yet had available. In industry, it is used as a tool to measure thickness, quantity or quality, to discover hidden flaws, to trace liquid flow, and for other purposes. So many research uses for ionizing radiation have been found that scientists in many diverse fields now rank radiation with the microscope in value as a working tool.

The hazards of ionizing radiation. Ionizing radiation involves health hazards just as do many other useful tools. Scientific findings concerning the biological effects of radiation of most immediate interest to the establishment of radiation protection standards are the following:

1. Acute doses of radiation may produce immediate or delayed effects, or both.

2. As acute whole body doses increase above approximately 25 rems (units of radiation dose), immediately observable effects increase in severity with dose, beginning from barely detectable changes, to biological signs clearly indicating damage, to death at levels of a few hundred rems.

3. Delayed effects produced either by acute irradiation or by chronic irradiation are similar in kind, but the ability of the body to repair radiation damage is usually more effective in the case of chronic than acute irradiation.

4. The delayed effects from radiation are in general indistinguishable from familiar pathological conditions usually present in the population.

5. Delayed effects include genetic effects (effects transmitted to succeeding generations), increased incidence of tumors, lifespan shortening, and growth and development changes.

6. The child, the infant, and the unborn infant appear to be more sensitive to radiation than the adult.

7. The various organs of the body differ in their sensitivity to radiation.

8. Although ionizing radiation can induce genetic and somatic effects (effects on the individual during his lifetime other than genetic effects), the evidence at the present time is insufficient to justify precise conclusions on the nature of the dose-effect relationship at low doses and dose rates. Moreover, the evidence is insufficient to prove either the hypothesis of a "damage threshold" (a point below which no damage occurs) or the hypothesis of "no threshold" in man at low doses.

9. If one assumes a direct linear relation between biological effect and the amount of dose, it then becomes possible to relate very low dose to an assumed biological effect even though it is not detectable. It is generally agreed that the effect that may actually occur will not exceed the amount predicted by this assumption.

Basic biological assumptions. There are insufficient data to provide a firm basis for evaluating radiation effects for all types and levels of irradiation. There is particular uncertainty with respect to the biological effects at very low doses and low-dose rates. It is not prudent therefore to assume that there is a level of radiation exposure below which there is absolute certainty that no effect may occur. This consideration, in addition to the adoption of the conservative hypothesis of a linear relation between biological effect and the amount of dose, determines our basic approach to the formulation of radiation protection guides.

The lack of adequate scientific information makes it urgent that additional research be undertaken and new data developed to provide a firmer basis for evaluating biological risk. Appropriate member agencies of the Federal Radiation Council are sponsoring and encouraging research in these areas.

Recommendations. In view of the findings summarized above the following recommendations are made:

It is recommended that:

1. There should not be any man-made radiation exposure without the expectation of benefit resulting from such exposure. Activities resulting in man-made radiation exposure should be authorized for useful applications provided in recommendations set forth herein are followed.

It is recommended that:

2. The term "Radiation Protection Guide" be adopted for Federal use. This term is defined as the radiation dose which should not be exceeded without careful consideration of the reasons for doing so; every effort should be made to encourage the maintenance of radiation doses as far below this guide as practicable.

It is recommended that:

3. The following Radiation Protection Guides be adopted for normal peacetime operations:

Type of exposure	Condition	Dose (rem)
Radiation worker:		
(a) Whole body, head and trunk, active blood forming organs, gonads, or lens of eye.	Accumulated dose	5 times the number of years beyond age 18.
	13 weeks	3.
(b) Skin of whole body and thyroid	Year	30.
	13 weeks	10.
(c) Hands and forearms, feet and ankles	Year	75.
	13 weeks	25.
(d) Bone	Body burden	0.1 microgram of radium-226 or its biological equivalent.
(e) Other organs	Year	15.
	13 weeks	5.
Population:		
(a) Individual	Year	0.5 (whole body).
(b) Average	30 year	5 (gonads).

The following points are made in relation to the Radiation Protection Guides herein provided:

(1) For the individual in the population, the basic Guide for annual whole body dose is 0.5 rem. This Guide applies when the individual whole body doses are known. As an operational technique, where the individual whole body doses are not known, a suitable sample of the exposed population should be developed whose protection guide for annual whole body dose will be 0.17 rem per capita per year. It is emphasized that this is an operational technique which should be modified to meet special situations.

(2) Considerations of population genetics impose a per capita dose limitation for the gonads of 5 rems in 30 years. The operational mechanism described above for the annual individual whole body dose of 0.5 rem is likely in the immediate future to assure that the gonadal exposure Guide (5 rem in 30 years) is not exceeded.

(3) These Guides do not differ substantially from certain other recommendations such as those made by the National Committee on Radiation Protection and Measurements, the National Academy of Sciences, and the International Commission on Radiological Protection.

(4) The term "maximum permissible dose" is used by the National Committee on Radiation Protection (NCRP) and the International Commission on Radiological Protection (ICRP). However, this term is often misunderstood. The words "maximum" and "permissible" both have unfortunate connotations not intended by either the NCRP or the ICRP.

(5) There can be no single permissible or acceptable level of exposure without regard to the reason for permitting the exposure. It should be general practice to reduce exposure to radiation, and positive effort should be carried out to fulfill the sense of these recommendations. It is basic that exposure to radiation should result from a real determination of its necessity.

(6) There can be different Radiation Protection Guides with different numerical values, depending upon the circumstances. The Guides herein recommended are appropriate for normal peacetime operations.

(7) These Guides are not intended to apply to radiation exposure resulting from natural background or the purposeful exposure of patients by practitioners of the healing arts.

(8) It is recognized that our present scientific knowledge does not provide a firm foundation within a factor of two or three for selection of any particular numerical value in preference to another value. It should be recognized that the Radiation Protection Guides recommended in this paper are well below the level where biological damage has been observed in humans.

It is recommended that:

4. Current protection guides used by the agencies be continued on an interim basis for organ doses to the population.

Recommendations are not made concerning the Radiation Protection Guides for individual organ doses to the population, other than the gonads. Unfortunately, the complexities of establishing guides applicable to radiation exposure of all body organs preclude the Council from making recommendations concerning them at this time. However, current protection guides used by the agencies appear appropriate on an interim basis.

It is recommended that:

5. The term "Radioactivity Concentration Guide" be adopted for Federal use. This term is defined as the concentration of radioactivity in the environment which is determined to result in whole body or organ doses equal to the Radiation Protection Guide.

Within this definition, Radioactivity Concentration Guides can be determined after the Radiation Protection Guides are decided upon. Any given Radioactivity Concentration Guide is applicable only for the circumstances under which the use of its corresponding Radiation Protection Guide is appropriate.

It is recommended that:

6. The Federal agencies, as an interim measure, use radioactivity concentration guides which are consistent with the recommended Radiation Protection Guides. Where no Radiation Protection Guides are provided, Federal agencies continue present practices.

No specific numerical recommendations for Radioactivity Concentration Guides are provided at this time. However, concentration guides now used by the agencies appear appropriate on an interim basis. Where appropriate radioactivity concentration guides are not available, and where Radiation Protection Guides for specific organs are provided herein, the latter Guides can be used by the Federal agencies as a starting point for the derivation of radioactivity concentration guides applicable to their particular problems. The Federal Radiation Council has also initiated action directed towards the development of additional Guides for radiation protection.

It is recommended that:

7. The Federal agencies apply these Radiation Protection Guides with judgment and discretion, to assure that reasonable probability is achieved in the attainment of the desired goal of protecting man from the undesirable effects of radiation. The Guides may be exceeded only after the Federal agency having jurisdiction over the matter has carefully considered the reason for doing so in light of the recommendations in this paper.

The Radiation Protection Guides provide a general framework for the radiation protection requirements. It is expected that each Federal agency, by virtue of its immediate knowledge of its operating problems, will use these Guides as a basis upon which to develop detailed standards tailored to meet its particular requirements. The Council will follow the activities of the Federal agencies in this area and will promote the necessary coordination to achieve an effective Federal program.

If the foregoing recommendations are approved by you for the guidance of Federal agencies in the conduct of their radiation protection activities, it is further recommended that this memorandum be published in the FEDERAL REGISTER.

ARTHUR S. FLEMMING,
Chairman,
Federal Radiation Council.

READEX
FICHE

49 FR 35896
Published 9/12/84

Federal Radiological Emergency Response Plan (FRERP); Publication as an Interim Plan

AGENCY: Federal Emergency Management Agency.

ACTION: Notice.

SUMMARY: The Federal Radiological Emergency Response Plan (FRERP), referred to interchangeably as the Federal Plan, is published for implementation by Federal agencies to discharge statutory and regulatory responsibilities in response to a wide range of peacetime radiological emergencies. The FRERP will also serve as a resource document for States and private organizations to describe how the Federal Government will respond to State requests for assistance during a major radiological emergency and how Federal agencies will fulfill specific statutory or regulatory requirements to protect people and property from the consequences of such an event. FEMA will update the the FRERP from time to time, as required in Executive Order 12241.

This publication consists of Part I of the FRERP. It outlines authorities and responsibilities of each of the 12 agencies that have resources and capabilities applicable to a Federal response to a radiological emergency. It describes how these 12 agencies will work together to provide an efficient, coordinated Federal response and how the Federal Government will work with State governments and private organizations during an emergency response.

Part II of the FRERP is composed of individual agency response plans that are developed and maintained by each individual agency. These individual agency plans provide for each agency's response in accordance with the concept of operations specified in Part I. A summary of each agency's plan is contained in Part I.

THE FRERP has been developed as a cooperative effort of the 12 agencies represented on the Subcommittee on Federal Response of the Federal Radiological Preparedness Coordinating Committee. This Subcommittee coordinated Federal interagency emergency planning activities for peacetime radiological emergencies.

The Subcommittee's efforts span a two-year period that witnessed: (1) HIEX-82, a headquarters tabletop drill in October 1982 which tested Federal agencies' response to a simulated radiological emergency involving a nuclear power plant; (2) the publication in April 1983, of the Planning Guidance for the Preparation of the Federal Radiological Emergency Response Plan (FRERP) for use by Federal agencies in developing and coordinating their agencies' response plans; (3) NUWAX-83, a May 1983 field test of Federal nuclear weapons accident response capabilities; (4) the publication in the **Federal Register** in January 1984, of a draft Federal Plan, 49 FR 3578; and (5) a large scale field exercise in Florida in March 1984 to evaluate the effectiveness of the FRERP in coordinating Federal agencies' response to this simulated emergency. Lessons learned from this exercise, as contained in the FRERP Field Exercise Evaluation Report of June 1984, and comments received following the January 1984 publication of the draft Federal Plan were considered in revising this Plan.

The FRERP supersedes the "National Radiological Emergency Preparedness/Response Plan for Commercial Nuclear Power Plant Accidents", i.e., the Master Plan. The Master Plan was published by the Federal Emergency Management Agency (FEMA) in December 23, 1980, 45 FR 84910, to discharge a requirement under Pub. L. 96–295 to publish a coordinated, effective plan for Federal agencies to respond to a commercial nuclear power plant accident. This authority, delegated to FEMA in Executive Order 12241 and reflected in the publication of the Master Plan, is further fulfilled by this publication.

The FRERP represents an expansion in scope of the Master Plan to include a wide range of peacetime radiological emergencies including nuclear weapons accidents and transportation accidents involving radiological materials. As such, it reflects insights gained since the Master Plan was published in 1980 on how the Federal Government may more effectively respond to a wide range of peacetime radiological emergencies. This Plan was tested by the Federal agencies and proven viable in a field exercise conducted in March 1984.

Copies

FOR FURTHER INFORMATION CONTACT: Mr. Vernon Adler, Chief, Federal Response Planning and Exercise Branch, Disaster Assistance Programs, State and Local Programs and Support Directorate, Federal Emergency Management Agency, 500 C Street, SW., Washington, D.C. 20472, telephone 202–287–0508.

SUPPLEMENTARY INFORMATION: Under the provisions of Executive Order 12148 (July 20, 1979), the Director, FEMA, is responsible for establishing Federal policies for, and coordinating, all civil emergency planning, management, mitigation, and assistance functions of executive agencies. Under this mandate, FEMA has assumed the responsibility for coordinating the development of the Federal Radiological Emergency Response Plan.

Public Law 96–295, section 304 (June 30, 1980) requires that the President prepare and publish a National Contingency Plan which provides for an expeditious, efficient, and coordinated Federal response to an accident at a commercial nuclear power plant. Executive Order 12241 (September 29, 1980) delegated this responsibility to the Director, FEMA.

While the FRERP is a FEMA publication consistent with the charge under Executive Orders 12148 and 12241, this document also represents the collective approval of the Subcommittee on Federal Response. It is published in interim, but operational form, pending formal agency concurrences.

Dated: August 31, 1984.

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Federal Radiological Emergency Response Plan

Part I

August 1984.

Prepared by the Federal Emergency Management Agency and the other Agencies on the Subcommittee on Federal Response of the Federal Radiological Preparedness Coordinating Committee.

Table of Contents

I. Introduction and Background
  A. Purpose
  B. Scope
  C. Authorities
  D. Planning Assumptions
II. Concept of Operations
  A. Response Overview and Summary
  B. Notification, Activation, Recovery, and Deactivation
  C. General Response Roles of Principal Agencies and Officials
  D. Public Information and Congressional Relations
  E. International Response Coordination
III. Federal Radiological Monitoring and Assessment Plan (FRMAP)
  A. Foreword
  B. Purpose
  C. Authority and Jurisdiction
  D. Policy
  E. Organization
  F. Responsibilities of Participating Agencies
  G. Types of Emergencies
  H. Operating Procedures
  I. Supporting Agreements
IV. Federal Agency Interfaces and Response Plan Summaries

    A. Federal agency Interfaces
    B. Summaries of Federal Agency Response Plans
Appendix A: Acronyms
Appendix B: Definitions
Appendix C: Federal Emergency Phone and Facsimile Numbers

List of Tables

Table II–1: Response Overview
Table II–2: Identification of Cognizant Federal Agencies for Radiological Emergencies

I. Introduction and Background

A. Purpose

The Federal Radiological Emergency Response Plan (FRERP) is to be used by Federal agencies in peacetime radiological emergencies. It primarily concerns the offsite Federal response in support of State and local governments with jurisdiction for the emergency. The FRERP: (1) Provides the Federal government's concept of operations based on specific authorities for responding to radiological emergencies; (2) outlines Federal policies and planning assumptions that underlie this concept of operations and on which Federal agency response plans (in addition to their agency-specific policies) were based; and (3) specifies authorities and responsibilities of each Federal agency that may have a significant role in such emergencies.[1] The FRERP includes the Federal Radiological Monitoring and Assessment Plan (FRMAP) for use by Federal agencies with radiological monitoring and assessment capabilities.

Part I of the FRERP also includes summaries of Federal agency response plans. Part II consists of individual agencies' response plans, which are maintained by the respective agencies. These response plans provide specific guidance to Federal agencies for implementing Part I of the FRERP.

Part I of the FRERP will be revised by FEMA, as necessary, in coordination with the Subcommittee on Federal Response of the Federal Radiological Preparedness Coordinating Committee (FRPCC). DoE will have primary responsibility for proposing changes to the FRMAP section of the FRERP to the Subcommittee. Agencies should provide updates of their offsite plans and procedures to the Director, FEMA.

FEMA will periodically exercise the FRERP in coordination with the Subcommittee on Federal Response and the Subcommittee on Training and Exercises of the FRPCC. The results of such exercises will be used to update the FRERP and individual agency offsite response plans and procedures as necessary. The FRERP will be published from time to time in the **Federal Register.**

B. Scope

The FRERP covers any peacetime radiological emergency occurring within the United States, its territories, possessions, and territorial waters that could require a significant response by several Federal agencies. Specifically, emergencies occurring at fixed nuclear facilities or during the transportation of radioactive materials, including nuclear weapons, may fall within the scope of the plan regardless of whether the facility or radioactive materials are publicly or privately owned, Federally regulated, or regulated by an Agreement State.[2] The time period during which the FRERP is in effect encompasses the Federal response from initial notification of the Federal agencies through providing assistance to the State and local governments in recovering from the emergency and deactivation of the Federal response.

This plan applies to peacetime emergencies resulting from the following types of incidents:

- Fixed Nuclear Facility Incidents;
- Transportation Incidents; and
- Other Incidents, e.g., nuclear-powered satellite re-entry.

Each type of incident presents different types of response problems. Fixed nuclear facilities, including nuclear power reactors, have the advantages of known locations and existing site-specific emergency plans. Classifications of incident severity have been developed for many of these facilities, and the level of the Federal response may be guided by these classifications. The Nuclear Regulatory Commission (NRC) instituted a classification scheme for licensed nuclear power plants which has been in use for several years. This scheme is being expanded to include other NRC licensed facilities, and DoD and DoE are developing classification and reporting systems for their facilities which are similar to the NRC classification scheme.

Response to transportation accidents is more difficult to plan, as such accidents may occur anywhere, may involve a variety of radioactive materials, and may represent much less of a radiological hazard or serious threat to the public. In most cases, State resources or a limited Federal response will suffice.

Nuclear weapons accidents, weapon-significant incidents, and spent fuel incidents are not significantly different from accidents at fixed facilities or accidents during transportation of radioactive materials, and consequently are covered by these latter types of incidents.

The category of "other incidents" contains events that do not fit into the other two types of incidents. These incidents are more closely related to transportation incidents than to fixed nuclear facility incidents with regard to the nature of the Federal response that can be expected.

Sabotage and terrorism are not treated as separate types of incidents; rather, they are considered a complicating dimension of the incident types listed above. In general, responses to radiological emergencies do not depend on the initiating event. Thus, for example, a coordinated response to contain and mitigate a threatened or actual release of radioactive material from a power reactor would be essentially the same whether it resulted from an accidental or deliberate act. As a practical matter, the cause of the problem may not be known until post-accident investigations are completed.

The Atomic Energy Act directs the Federal Bureau of Investigation (FBI) to investigate all alleged or suspected criminal violations of the Act. The Attorney General, operating through the FBI and other appropriate personnel in the Department of Justice or in other Executive Departments, has the authority to investigate any alleged or suspected violations. The FBI is also legally responsible for locating any nuclear weapon, device, or material and for restoring nuclear facilities to their rightful custodians.

In view of the FBI's unique responsibilities under The Atomic Energy Act, as amended by the Energy Reorganization Act, it is realistic to expect that the DoD, DoE, or NRC will assist the FBI in locating and subsequently neutralizing any nuclear weapon or device of unauthorized origin. The FBI also will interface with these agencies as needed in responding to such acts.

Another aspect of the scope of the FRERP concerns the location of the response to the emergency. The FRERP is concerned primarily with Federal support to State and local governments beyond the immediate site of the emergency, i.e., "off site". For emergencies occurred at fixed nuclear facilities, "off site" generally refers to the area beyond the facility boundary. For a fixed nuclear facility owned, authorized, or regulated by a Federal agency, the onsite Federal support is the responsibility of that Federal agency, i.e., the CFA. For emergencies that do not occur at fixed nuclear facilities and for which no physical boundary exists, the offsite area is not defined. For example, in most transportation accidents not involving nuclear weapons the State or local government will define an area "on site" at the time of the accident and manage all actions within that area. In such accidents Federal agencies have no independent authority for defining the onsite area. For a transportation accident involving materials shipped by or for DoD, DoE, those agencies, as CFAs, will define and control the onsite area and take action on site depending on which of these agencies has custody of the material at the time of the accident. For certain spent fuel accidents DoE would be the CFA under Pub. L. 97–425 and have authority over the spent fuel material, but the State or local government would define and control the onsite area. In Agreement States, the State agency with regulatory authority will fulfill the onsite response role normally provided by the CFR for all activities that the State regulates.

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[1] The terms "Federal agency" and "Federal department" are used interchangeably throughout this document.

[2] Under the *Atomic Energy Act of 1954* (subsection 274.b.), the NRC has relinquished to certain States its regulatory authority for licensing the use of source, byproduct, and small quantities of special nuclear material.

The plan is designed to accomodate all types of peacetime radiological emergencies. However, the Federal response to different types of radiological emergencies under the FRERP will differ based on the type or amount of radioactive material involved, the potential for public impact, the size of the affected area, and the time available to respond.

C. Authorities

The following are the authorities for the response of the major Federal agencies participating in this plan:

- *The Atomic Energy Act of 1954, as amended, Pub. L. 83–703.* This Act declares that the use of nuclear materials must be regulated in the national interest in order to provide for the common defense and security, and to protect the health and safety of the public.
- *Executive Order 12148, July 20, 1979.* This Executive Order assigns the Director, FEMA, the responsibility for establishing Federal policies for, and coordinating, all civil defense and civil emergency planning, management, mitigation, and assistance functions of executive agencies.
- *Nuclear Regulatory Commission Appropriation Authorization, Pub. L. 96–295, June 30, 1980, section 304.* This authorization requires the President to prepare and publish a National Contingency Plan to provide for expeditious, efficient, and coordinated action by appropriate Federal agencies to protect the public health and safety in case of accidents at commercial nuclear power plants.
- *Executive Order 12241, September 29, 1980.* This Executive Order delegates to the Director, FEMA, the responsibility for publishing the National Contingency Plan for accidents at nuclear power facilities and requires that it be published from time to time in the **Federal Register**.
- *44 CFR Part 351, March 11, 1982.* This regulation establishes the Federal Radiological Preparedness Coordinating Committee, the parent of the Subcommittee on Federal Response that has developed this plan. It also assigns responsibility to the Department of Energy for the development of the Federal Radiological Monitoring and Assessment Plan.

Additional authorities for other Federal agencies are presented in Section IV.

D. Planning Assumptions

The following broad assumptions and policies have been used to prepare Part I of this plan and to develop the individual agency response plans and procedures contained in Part II.

1. Public and Private Sector Response

The owner or operator of an affected nuclear facility has primary responsibility for actions within the boundaries of that facility for minimizing the radiological hazard to the public. State or local governments have primary responsibility for determining and implementing any measures to protect life, property, and the environment in any areas not within the boundaries of a fixed nuclear facility or otherwise not within the control of a Federal agency. For example, in a transportation accident (other than one involving nuclear weapons) the State or local government has the responsibility for taking emergency actions both on site and off site. During an emergency, appropriate Federal resources may be used to support State and local governments' response measures, if requested. Federal agency response plans recognize the primacy of the response roles of owners or operators and State and local governments.

If the owner or operator of a radiological activity is licensed or regulated by a State agency in an "Agreement State", that State agency would provide onsite monitoring, evaluation, and advice. However, the Federal government will provide any appropriate support requested by that State agency or other State or local agencies with jurisdiction.

Certain Federal agencies have onsite response roles in a radiological emergency when a Federal agency owns, authorizes, or regulates a facility or radiological activity and has the authority to take action on site. That Federal agency is primarily responsible for monitoring the owner or operator's activities and for providing needed assistance. For example, in the case of an emergency at a licensed commercial nuclear power plant, the Nuclear Regulatory Commission monitors the situation, evaluates licensee actions, and advises the licensee, as appropriate, on the licensee's efforts to bring the reactor into a stable condition and minimize the offsite radiological consequences.

2. Federal Agency Authorities

Notwithstanding the primacy of the State for protecting public health and safety off site, some Federal agencies have statutory or other authorities for responding to certain situations affecting public health and safety without a State request. Section IV of this plan cites those relevant legislative and executive authorities. This plan provides a framework for coordinating Federal actions within those authorities; it does not create any new authorities.

3. Basis for a Federal Response

The Federal government will respond when: (1) A state, other governmental entity with jurisdiction, or regulated entity requests Federal support; or, (2) Federal agencies must respond to meet their statutory responsibilities, e.g., when an emergency significantly affects Federal missions, property, or resources. Any Federal response will be closely coordinated with the State or local governments concerned.

Responses to incidents on or affecting Federal lands are to be coordinated with Federal land management agencies to ensure that response activities are consistent with Federal statutes governing the use and occupancy of these lands. In addition, Federally recognized Indian tribes have a special relationship with the United States of America, and State and local governments may have limited or no authority on their reservations. The Bureau of Indian Affairs of the Department of the Interior (DoI) is available to assist other agencies in consulting with these tribes about radiological emergency preparedness and responses to incidents.

4. Federal Agency Resource Commitments

The resources of the Federal agencies will be made available during radiological assistance operations, subject to prior commitments to fulfill other operational requirements considered essential based on statutory responsibilities. Agencies committing resources under this plan do so with the understanding that the duration of the commitment of those resources will depend on the nature and extent of the emergency. It is further understood that subsequent emergencies that are more serious or of higher priority (such as those that may jeopardize national security) may require Federal agencies to reassess resources previously committed under this plan.

5. Protocol for Federal Assistance Requests by Owners or Operators

The owner or operator of a facility or radiological activity, either private or authorized or regulated by the Federal government, can ask for assistance directly from the appropriate Federal agency. The State or local governments, as well as the CFA and FEMA, should be informed by the Federal agency first contacted when such assistance is requested.

6. Coordination of State and Local Assistance Requests

After notification of a radiological emergency that could signficantly impact the public health and safety, and after discussions with the CFA, or upon a direct State request for assistance, FEMA will designate and deploy a Senior FEMA Official (SFO) to provide a single point of contact, as required, for State and local assistance requests. Where possible, the SFO will co-locate with the State representative at an offsite location. State and local government requests for assistance can also be made directly to individual Federal agencies. Federal agencies contacted directly will inform the SFO. When State and local authorities are unable to obtain the required assistance, they should direct requests for offsite Federal assistance to the SFO, or, in the absence of such a designated official, to the appropriate FEMA regional office.

The Governor of the affected State will be advised of the designation of the SFO and will be asked to designate a State representative as the State Coordinating Officer (SCO) to provide a principal point of State contact. The SFO will promote effective operating relationships among Federal, State, local, volunteer, and private agencies.

7. Federal and State Communications

Emergency response requires a continuous flow of information among Federal and State agencies thoughout an emergency. This plan does not restrict this flow. However, for the SFO to coordinate response actions and maintain the most current information, Federal agencies need to keep the SFO informed of their major response efforts and activities that might impinge on the actions of other agencies.

8. Federal Referrals of State and Local Assistance Requests

State and local authorities will be encouraged to coordinate their actions with their SCO. Nevertheless, some State and local authorities may contact Federal agencies directly. Accordingly, to facilitate such contact, Federal agency response plans and procedure have:

a. Described the individual agencies' responsibilities in support of the State. This will help States to determine the most appropriate Federal agency to contact for the required assistance. Particular emphasis has been given to describing responsibilities that are closely related to those of other agencies.

b. Provided for referral for inquiries falling within another agency's area of responsibility to the appropriate agency as promptly as possible. Whenever a question exists as to the appropriate agency for referral, agencies should direct the referral to the SFO.

9. Coordination Among Federal Agencies

Federal agencies should coordinate their actions with the SFO. In addition, Federal agencies will communicate freely and interact directly with other Federal agencies as required during emergencies.

10. Public Information Coordination

Public information on the consequences of an emergency must be accurate, timely, and easily understood. Public information must be closely coordinated with State and local officials and disseminated to the public from official government sources. State officials are responsible for keeping their populace adequately informed. Since the Federal government's role is to help the State, the public information officers of the responding Federal agenices will, if requested, help State information officials prepare news releases and hold press conferences concerning the health and safety of the public.

When a multi-agency Federal response to an emergency occurs, all Federal public information releases will be coordinated through the interagency public information organizations described in Section II.

Close working relationships among the public information officials of Federal agencies, their State and local counterparts, and the owner or operator are essential. To foster close working relationships efforts will be made to co-locate Federal, State, local, and owner or operator public information officials at a Joint Information Center. The Federal government will coordinate with, and obtain concurrence as necessary from, the appropriate State or local officials on any statements to the public that bear on the responsibility of the State.

II. Concept of Operations

A. Response Overview and Summary

The CFA, FEMA, and DoE or EPA each has a specific coordination function in relation to the State and the owner or operator of the radiological activity as summarized in Table II–1. Other Federal officials may arrive on the scene prior to the arrival of the CFA, FEMA, and DoE/EPA and act under their own authorities to fulfill their responsibilities. During that brief period, those agencies will coordinate their activities among themselves and with the CFA, FRMA, and DoE as soon as they arrive concerning the status of ongoing response efforts. The CFA, FEMA, and DoE or EPA personnel on the scene will provide their regional or headquarters offices with all relevant information available.

TABLE II–1.—RESPONSE OVERVIEW

Response action	Lead Federal agency
(1) Conduct and manage Federal onsite actions to support the owner or operator. —Monitor; Evaluate; Advise—Assistance, if required	CFA.
(2) Coordinate Federal offsite radiological monitoring and assessment	
—Initial Response	DoE.
—Intermediate and Long-Term Response	EPA.
(3) Develop or evaluate recommendations for public protective action measures off site.	CFA.
(4) Present recommendations for offsite protective action measures to the appropriate State and/or local officials.	CFA, in coordination with FEMA whenever possible.
(5) Promote coordination of Federal assistance. This includes assistance to State and local governments and logistic support to Federal agencies.	FEMA.
(6) Coordinate release of information to the public and to Congress.	CFA initially; FEMA after mutual agreement.

TABLE II-1.—RESPONSE OVERVIEW—Continued

Response action	Lead Federal agency
(7) Coordinate release of information to the White House	CFA initially; FEMA thereafter.

The Department of Energy, during the initial phases of the emergency, and the EPA thereafter, will work with the appropriate State and local agencies to coordinate offsite radiological monitoring and assessment activities. DoE or EPA will assess monitoring data and present them to the CFA and appropriate State agencies. The CFA will use this information, together with its assessment of the current condition and prognosis of the emergency on site, to develop or evaluate public protective action recommendations.

Federal departments and agencies that have day-to-day contacts with State counterparts will continue to use these contacts during an emergency. FEMA will be informed of contacts that may impinge on the actions of other Federal agencies. The Department of Health and Human Services (HHS), EPA, DoE, and the U.S. Department of Agriculture (USDA), in coordination with the appropriate State agencies, will provide advice to the CFA, if requested, concerning possible public health impacts and associated protective measures for mitigating them. The CFA will use this advice, as required, to develop a coordinated Federal position on recommendations for public protective action.

FEMA will remain informed of onsite conditions that could have an offsite impact, through the CFA. FEMA's overall coordination function is not intended to replace or supplant existing liaison and communication between Federal agencies and their State counterparts. If Federal agencies need assistance in exchanging information, or in acquiring or releasing public information, FEMA will help the agencies accomplish these tasks.

A CFA role will be assumed by a Federal agency in accordance with the scheme presented in Table II–2 when a significant Federal response is appropriate. Lesser events which do not warrant such a response are not covered by the FRERP. Specifically, a CFA role will be assumed for major radiological emergencies at fixed nuclear facilities which are owned, authorized, or regulated by a Federal agency, and for major transportation accidents involving shipments by or for DoD or DoE. For major transportation accidents involving nuclear materials other than DoD or DoE material, no Federal agency has the authority to become the CFA. In these instances, and in all other emergencies not cited above which require implementation of the FRERP, FEMA will consult with other appropriate Federal agencies regarding the CFA role. The result of such consultation will be either that a Federal agency assumes the CFA role, or that a decision is made that the CFA role is not appropriate. Whenever it is determined that a CFA is not appropriate, FEMA will coordinate the Federal response, relying on agencies with the technical expertise to evaluate the situation and develop advice for State and local governments.

TABLE II–2.—IDENTIFICATION OF COGNIZANT FEDERAL AGENCIES FOR RADIOLOGICAL EMERGENCIES

Type of emergency	Owner or operator	Cognizant Federal agency
Fixed nuclear facility.	NRC-licensed	NRC.
Do	Dod or DoE-owned or authorized.	DoD or DoE, respectively.
Do	Not federally owned, authorized, or licensed.	None.
Transportation (shipments by or for DoD or DoE).	DoD or DoE	DoD or DoE, respectively.
Transportation (all other).	Private, State, local, or Federal.	None.
All other emergencies.	do	NRC, DoD, or DoE; or None.

The CFA, in conjunction with FEMA whenever possible, will present any Federal recommendations to the State or other appropriate offsite authority with jurisdiction for implementing or relaxing protective actions. In the case of a fixed nuclear facility licensed by the NRC, the licensee is responsible for developing appropriate protective action recommendations and promptly providing those recommendations to State and local authorities without awaiting NRC's concurrence. NRC, in the role of CFA, will evaluate the licensee's protective action recommendations as time permits, and will either concur in them or suggest modifications, as appropriate. FEMA is then responsible for promoting coordination among Federal agencies providing assistance to the State in implementing those recommendations if such assistance is requested by the State, and for communicating those recommendations to the responding Federal agencies.

B. Notificaton, Activation, Recovery, and Deactivation

The headquarters officials of FEMA and each CFA will follow a pre-established system for notifying all appropriate Federal agencies.

1. Notification

The owner or operator of the facility or radiological activity is generally the first to become aware of a radiological emergency, and is responsible for notifying the appropriate State and Federal authorities.

Subsequent to its receipt of a notification of an incident, the CFA will notify FEMA headquarters in Washington, D.C. by contacting the FEMA Emergency Information and Coordination Center (EICC). CFAs maintain similar emergency operation centers at their headquarters, regional, or field offices.

A notification should include a description of the emergency situation so that FEMA can carry out its further notification and response duties. The CFA will provide FEMA with a general assessment of the emergency including location and nature of the accident, an assessment of the severity of the problem as known, a description of the CFA's response, and any follow-on actions anticipated by the CFA.

FEMA will verify that the State has been notified of the emergency by contacting the State. FEMA and the CFA will notify other appropriate Federal agencies of the emergency in accordance with their notification procedures, pre-established interagency agreements, or interagency operational response procedures. If no Federal agency has the authority to assume the CFA role, FEMA will make all notifications. In those cases where Federal lands could be affected, FEMA will notify the Federal agency with jurisdiction. The notifications will incorporate relevant information exchanged between the CFA, if any, and FEMA. Individual agencies should determine their specific requirements for subsequent information, whenever those requirements have not been predefined with the CFA or FEMA.

DoE will notify Federal agencies with FRMAP responsibilities in accordance with agreed-upon procedures. Federal agencies that can provide radiological assistance may respond upon receiving a direct request for assistance from the State or owner or operator. Federal agencies so contacted will inform the DoE as soon as their response team arrives at the scene.

2. Activation

Upon receipt of notification, each agency will assess the need to initiate its response. The response decision will be based on the situation reported and may consist of several steps:

- Alerting or activating appropriate Federal agency response components;
- Determining whether State or local government requests for assistance have been received (where appropriate);
- Activation of agency emergency response teams and their deployment to the scene; and
- Establishment of bases of operation at the scene of the emergency from which to carry out a coordinated Federal response.

A full-scale Federal response begins with the execution of the notification scheme and includes all the above four steps. Since many emergencies will not require a full-scale response, the Federal response might reach only the first or second step. When the Federal response reaches the third step, FEMA will so notify the affected State. When the third or fourth step is reached, an SFO may be deployed to establish an offsite base of operation for coordinating the Federal response, i.e., a Federal Response Center (FRC). The FRC will be established at a location that has been pre-selected together with the State, or otherwise will be established at the time of the emergency at a location identified in conjunction with the State. A Federal Radiological Monitoring and Assessment Center (FRMAC) will be established by DoE, usually at a nearby airport, in a similar manner. The CFA, if any, will establish a local base of operations. FEMA, the CFA, and DoE will exchange liaison representatives to ensure that activities at the various centers are coordinated.

As a result of notification of a radiological emergency, and after discussions with the CFA, FEMA may activate its headquarters Emergency Support Team. As soon as an Emergency Support Team is activated, FEMA will begin its coordinating activities. Prior to the arrival of the SFO or Deputy SFO (DSFO) at the scene, FEMA will rely on the Cognizant Federal Agency Official (CFAO), if at the scene, as the point of contact concerning Federal activities at the scene.

If an agency decides to initiate its response, that decision will be communicated to FEMA and will include: (1) The name and location of the lead agency official if one is designated; (2) the telephone number at which he/she can be contacted at headquarters or at the scene; (3) if appropriate, the primary official to deploy to the scene and his/her estimated time of arrival at the emergency site; and (4) intended location at the scene. Similarly, FEMA will provide each Federal agency with the same information when FEMA designates its SFO. FEMA will keep Federal agencies informed of the status of Federal agencies' response actions.

Because of its singular responsibility for Federal support on site, the CFA will determine and implement an efficient means for coordinating Federal support on site with Federal response activities off site.

a. *Deployment of Emergency Response Teams.* Agency plans and procedures describe response team deployment and establishment of bases of operations at the scene. Ideally, the SFO and staff, other Federal agency response teams, and State agency respresentatives would be co-located at the scene. Accordingly, FEMA and CFA site-specific emergency plans and procedures should be developed individually to accommodate State operations.

Some Federal agencies may immediately deploy their teams to the scene of the emergency to fulfill statutory responsibilities. This plan is not intended to restrict such activities; however, when the SFO arrives at the scene, the agencies that have already responded will inform the SFO of the offsite actions they have taken.

b. *SFO Designation and Deployment.* Upon activation, FEMA may deploy an Emergency Response Team (ERT) headed by an SFO. The SFO, once at the scene, will be supported by an Emergency Support Team at FEMA headquarters and the ERT. Prior to this deployment, FEMA will inform the affected State and the CFA of the planned FEMA response. FEMA will also notify the other agencies of its ERT deployment and activities.

Upon arrival at the scene, the SFO, or the DSFO if the SFO so authorizes, will establish an offsite base of operations, i.e., the Federal Response Center, for promoting coordination of the Federal response. The Deputy SFO, who leads the regional component, is likely to arrive at the scene prior to the arrival of the headquarters component and may have initial responsibility for establishing and operating the FRC until the SFO arrives.

The SFO will inform other Federal agencies at the emergency scene of the establishment of the FRC and request that they provide representation to it. The SFO will establish contact with the CFA or responsible State agency to determine the status of onsite response efforts. As soon as the SFO or DSFO arrives at the scene and contacts the CFA, the SFO (or DSFO) will serve as the focal point for promoting the coordination of the Federal response at the scene. The SFO and the CFAO will work together directly and through their representatives at the scene to ensure that each has an accurate understanding of the situation throughout the emergency.

3. Recovery and Response Deactivation

Prior to the deactivation of the Federal response, the Federal government may assist the State in developing its offsite recovery plan. Recovery planning will be initiated at the request of the State but generally after the cause of the emergency has been brought under control and immediate public health and safety and property protective actions have been accomplished. The SFO will coordinate Federal assistance to the State in recovery planning.

After the conditions on site have stabilized and the offsite contamination has been characterized and its extent determined, a CFA may or may not be needed. The agency that performed the CFA role may decide to deactivate its position as a CFA and focus primarily on the recovery effort on site. The CFA will discuss this deactivation with the SFO and determine a mutually agreeable time to implement the deactivation. However, the agency that served as CFA will continue to be available to provide required assistance to the State, in coordination with FEMA.

Each agency will discontinue response operations when advised by the State that assistance is no longer required or when its statutory responsibilities or response roles have been fulfilled. Prior to discontinuing its response operation, each agency will discuss its intent to do so with the CFA, FEMA, and with DoE or EPA if that agency is providing radiological support under the FRMAP.

C. General Response Roles of Principal Agencies and Officials

General Response roles are those that are independent of the cause, type, or location of the radiological emergency.

1. Role of the Cognizant Federal Agency

The CFA is the Federal agency that owns, authorizes, regulates, or is otherwise deemed responsible for the facility or radiological activity causing the emergency, and that has authority to take action on site. When it is necessary for a Federal agency to assume the CFA role, and to deploy to the site, the CFA will manage all Federal actions onsite, develop or evaluate offsite protective action and reentry recommendations, and help to implement those actions if requested by the State and if the CFA's resources permit.

Consistent with this role, the CFA has four general responsibilities:

- Receive notification of the emergency, initiate the CFA response, and notify appropriate Federal, State, and local agencies;
- Manage Federal response actions on site and coordinate these actions, as necessary, with the SFO and monitoring activities off site;
- Assess owner or operator, State, or locally recommended protective action measures and/or develop Federal recommendations for protective action and re-entry; help State and local authorities as resources permit; and
- Serve as the primary Federal source for information of a technical nature regarding the onsite emergency conditions and the potential or actual offsite radiological effects.

Each of these responsibilities is outlined in more detail below:

a. *Receive Notification of the Emergency, Initiate the CFA Response, and Notify Appropriate Federal Agencies.* (1) Receive notification of the emergency from the owner or operator of the facility or radiological activity causing the emergency, or from State or local authorities, and determine the significance of the emergency and the appropriate CFA response to it.

(2) Notify FEMA and DoE of the emergency; include in the notification the CFA's activation mode and actions, a general assessment of the emergency, and any necessary background information. Discuss with FEMA the need to deploy a SFO and Emergency Response Team.

(3) Deploy a CFA team to the site, when appropriate.

b. *Manage Federal Response Actions Onsite and Coordinate these Actions, as Necessary, With the SFO and Monitoring Activities Offsite.* (1) Designate a lead CFAO at the site of the emergency who will coordinate with the SFO, as necessary, on any onsite Federal actions that may have significant impacts off site.

(2) Establish appropriate bases of operation to oversee the onsite response, monitor owner or operator activities, provide technical support to the owner or operator if requested, and serve as the principal source of information about onsite conditions for the Federal government.

(3) Manage the onsite Federal response to the emergency, including an assessment of the conditions on site and the means for mitigating their consequences off site.

(4) Keep other agencies informed of conditions and Federal actions on site.

(5) Serve as a point of contact concerning Federal activities at the scene when the CFAO arrives at the scene prior to the SFO or his designee. During this interim period, the CFA will keep FEMA informed of Federal activities at the scene.

(6) Prepare the section of the White House Executive Summary dealing with onsite related conditions and their actual or potential offsite radiological impacts and provide this section to FEMA.

c. *Assess Owner or Operator, State or Locally Recommended Protective Action Measures and/or Develop Federal Recommendations for Protective Action and Re-entry; Help State and Local Authorities as Resources Permit.* One of the primalry areas where the Federal government may be able to assist State and local governments is in advising them on initial protective action recommendations (PARs),[1] and other protective measures and reentry recommendations (RERs)[2] for the public that may be developed by the owner or operator, or State or local authorities. In providing such advice, the CFA will use, to the extent applicable, appropriate advice and input from other Federal agencies with technical expertise on those matters. FEMA, upon request, will assist the CFA as required in developing such advice.

Whenever possible, the CFA will coordinate its presentation of the Federal evaluation of PARs with FEMA either prior to, or at the time of, their presentation to the State or other offsite authorities. When imminent peril threatens the public health and safety, the CFA will present the evaluation of PARs directly to the State or other offsite authorities without having to coordinate with any other Federal agency. With regard to developing or evaluating RERs, the CFA will keep FEMA informed of their development or evaluation and coordinate presentation of such advice to the State with FEMA. More specifically, the CFA's responsibilities related to PAR and RER development or evaluation, and presentation are:

(1) Serve, as a point of contact for State and local government technical information and, as required, for technical assistance requests.

(2) Provide staff liaison representatives to State authorities and the SFO, to help interpret the technical aspects of the emergency on site and its potential or real offsite radiological consequences.

(3) Work with DoE in its efforts to provide offsite monitoring data and assessments to appropriate State and Federal agencies.

(4) Prepare a coordinated Federal position on PARs whenever possible. Consult with HHS, DoE, EPA, USDA, and other Federal agencies as required.

(5) When appropriate, present the Federal assessment of PARs, in conjunction with FEMA, to the State or other offsite authorities.

(6) Develop or evaluate RERs to protect the public and present such advice, in conjunction with the SFO, to the State.

(7) Help State and local government agencies implement protective actions, as required, when the CFA has available resources to help provide the needed assistance.

d. *Serve as the Primary Source for Technical Information Regarding the Emergency Conditions Onsite and the Potential or Real Offsite Radiological Effects.* (1) Make an initial report to the White House Situation Room covering, if possible, the condition of the radiological activity causing the emergency and the actual or potential offsite radiological impact. After the initial report, prepare the section of FEMA's report dealing with onsite conditions and their actual or potential impact off site.

(2) Review and concur in the release of all Federally generated information related to the onsite conditions and remain informed of all information related to offsite radiological effects. Where possible, the CFA should review Federally provided offsite radiological data before release.

(3) Assist the State Public Information Officer in developing coordinated public information releases.

(4) Protect national security by classifying sensitive technical information in a nuclear weapon accident or weapon-significant incident.

2. Role of the Federal Emergency Management Agency

FEMA's primary responsibilities in the Federal response are to immediately notify participating Federal agencies[3] of the emergency and to serve as a focal point for coordinating Federal response activities at the national level and at the scene of the emergency. The Director of FEMA will designate and deploy the

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[1] The development or evaluation of protective action recommendations will take into consideratoin Protective Action Guides (PAGs) issued by appropriate Federal and State agencies. See Appendix B for definitions of protective action recommendations and protective action guides.

[2] See Appendix B for definition.

[3] Except the CFA (which is notified directly by the owner or operator) and DoE (which is notified by the CFA or the owner or operator or the State).

SFO for coordinating Federal response activities at the scene of the emergency.

a. *Emergency Support Team Role.* Through its Emergency Support Team at headquarters, FEMA will:

(1) Notify participating agencies of the emergency situation and supply information they need to take appropriate actions.

(2) Coordinate Federal response activities at the national level.

(3) Receive information at the Emergency Information and Coordination Center (EICC) from the CFA headquarters or from other public and private organizations about the impact of the emergency and the organizations' response.

(4) Prepare periodic reports on the Federal response for the White House.

(5) Provide staff support and other resources to the SFO as required.

b. *Emergency Response Team Role.* At the scene of the Emergency, the FEMA response is carried out through its Emergency Response Team, headed by the SFO. The SFO coordinates Federal activities with State offsite activities and promotes the coordination of Federal actions, information, and recommendations. Free interaction among Federal, State, and local agencies is encouraged. The SFO can facilitate information flow among all response elements and help direct Federal resources to the appropriate State and local government agencies. The SFO will not intervene in the relationships and communication channels that already exist between Federal and State agencies; rather, the SFO provides an additional means for facilitating Federal-State interactions.

Through the SFO, FEMA carries out three major responsibilities:

- Promote coordination among Federal agencies and their interactions with the State, including, in conjunction with the CFA, the provision of Federally developed or evaluated PARs and RERs to the State or other appropriate offsite authorities responsible for implementing those recommendations;
- Coordinate offsite activities with onsite response activities of Federal or State agencies; and
- Serve as an information source on the status of the overall Federal response effort. (The public information function is described in Section II.D.)

Each of these responsibilities is outlined below:

(a) *Promote Coordination Among Federal Agencies and Their Interactions With the State.* (1) Promote coordination of the provision of offsite assistance to appropriate State and local government agencies by the Federal agencies, including medical care, food, potable water, shelter, clothing, transportation, security, and any other assistance needed to protect the public health and safety. This coordination function is to be performed in addition to, and does not supplant, the specific coordination functions assigned to other Federal agencies as part of their normal responsibility to provide these specialized forms of assistance.

(2) Maintain a continuous overview of the total Federal response effort to ensure that no necessary actions are omitted and no unnecessary duplication occurs; any omissions or duplications will be brought to the attention of the agencies concerned.

(3) Establish the Federal Response Center as a base of operations at an offsite location identified in conjunction with the State. The Federal Response Center serves as a focal point for Federal response team interactions with the State.

(4) Provide a principal point of contact for requests for Federal assistance by State or local governments.

(5) Refer all State and local requests to the most appropriate Federal agency.

(6) Refer all Federal agencies to appropriate points of contact in State or local governments.

(7) Provide information to the State or local governments concerning the status of their assistance requests.

(8) Maintain contact with DoE or EPA to ensure that the offsite Federal radiological monitoring and assessment effort is coordinated with other offsite Federal assistance to the State.

(9) Facilitate the exchange of all other information among Federal agencies.

(10) Make requests for additional Federal resources that cannot be acquired by Federal agencies at the scene.

(11) Refer all interagency policy issues and interagency operational problems that cannot be resolved at the scene to FEMA headquarters for resolution with Federal agencies at the national level.

(12) Promote the provision of information from Federal agencies to the State regarding actions taken or anticipated by them.

(13) Promote the coordination of all formal recommendations and guidance from Federal agencies before they are presented to the State.

(b) *Coordinate the Federal Offsite Response With the Federal or State Onsite Response.* (1) Promote the coordination of the Federal offsite response with the Federal or State onsite response so that any Federal actions off site are taken with knowledge of current or anticipated actions on site.

(2) Assist and support the CFA, if any, with obtaimig needed logistical support through other Federal agencies as required.

(3) Assist the CFA, as required, in its development or evaluation of PARs and RERs including the provision of needed information to or from other Federal agencies having the required expertise.

(4) Ensure that the CFA is informed of the capabilities and resources of offsite Federal agencies for assisting with the implementation of Federal developed or evaluated PARs and RERs by the State or other offsite authorities.

(5) Assist the CFA, and DoE or EPA in their roles as FRMAP coordinators, in disseminating information to, and obtaining information from, other Federal agencies. Facilitate the exchange of all other information among Federal agencies.

(6) Participate in the presentation of a Federally coordinated assessment of PARs amd RERs to the State or other responsible offsite authorities inconjunction with the CFAO. When the public health and safety are in imminent peril, the CFAO will present PARs without consultation with the SFO or other Federal agencies,

(c) *Serve as an Information Source for the Total Federal Response.* (1) The SFO, in coordination with the CFA, will maintain an executive level summary of the total Federal response and will provide the FEMA Director with information, on a regular basis, on the status of the response that is appropriatre for the FEMA Director's overall executive summary to the President. Similarly, the FEMA Director will keep the White House Situation Room advised daily of continuing response activities. This FEMA activity does not preclude the White House from contacting any agency for information, nor does it restrict an agency from responding to White House request. The CFA will remain the source for technical information on the emergency, i.e., the onsite conditions and the potential or real offsite radiological impacts, and will provide this technical information to FEMA for inclusion in its summary.

(2) Provide pertinent information to the Members of Congress and their staffs making inquiries at the scene, coordinating as necessary with the CFA and other Federal agencies. FEMA and the CFA will each be responsible for keeping their respective Congressional Committees informed and will coordinate this with each other.

3. Role of DoE and EPA

The Department of Energy [4] and the Environmental Protection Agency have a major role in the Federal response by coordinating Federal radiological monitoring and assessment activities. There are three responsibilities involved, which initially fall to DoE. They are:

- Coordinate the offsite radiological monitoring, assessment, evaluation, and reporting of all Federal agencies during the initial phases of the emergency, including notification of Federal agencies in accordance with the provisions of the FRMAP;
- Maintain liaison and a common set of offsite radiological monitoring data with the facility owner or operator and State and local agencies with similar responsibilities; and
- Provide all monitoring data, assessments, and related evaluations to the CFA and State and assist the CFA in development of protective action recommendations and other measures to protect the public, as required. Where possible, the CFA should review the FRMAC monitoring data before release.

After the initial phases of the emergency, DoE will transfer these offsite coordination responsibilities to EPA at a mutually agreeable time. EPA will assume the lead agency responsibility for coordinating the intermediate and long-term offsite radiation monitoring activities after receiving adequate assurance from the Department of Energy and other Federal agencies that they will commit the required resources, personnel, and funds for the duration of the Federal response effort.

D. Public Information and Congressional Relations

This section describes the responsibilities for Federal agency public information and Congressional relations that will be implemented under this plan. Provision of accurate, consistent, well coordinated information to the public and to the Congress is recognized as to be of utmost importance.

1. General Public Information Responsibilities

The major roles and responsibilities for public information release during a radiological emergency are as follows.

a. *Facility or Radiological Activity Owners or Operators* are responsible for information concerning onsite status and conditions.

b. *The State* is responsible for releasing information relating to the impact of the emergency on the health and safety of its citizens and relating to its emergency response operations.

c. *The CFA*, if any, through the CFAO's Public Information Officer (PIO), and in close coordination with the owner or operator, and the State, is responsible for information related to (a) the onsite conditions of the radiological activity and (b) the offsite radiological effects. The CFA is responsible for the security classification of all onsite information in accidents or significant incidents involving nuclear weapons.

d. *Each Federal agency* is responsible for the preparation of public information released related to its own response activities. Prior to release, information will be coordinated through the public information organizations described in the remainder of this section.

e. *FEMA*, through the SFO's PIO, will work with the CFAO's PIO to promote coordination among all Federal agencies regarding public information generated by them and to promote the coordination of press release with the State. Coordination does not mean that the language of all releases must be approved by the SFO and CFAO PIOs, but rather that the information content is to be reviewed by them prior to release to ensure its consistency with the total information available. In cases when the public helath and safety are in imminent peril, the CFAO's PIO may review and release public information independently. The SFO's PIO will assume responsibility from the CFAO's PIO at a mutually agreeable time when recovery efforts are initiated by the State or other appropriate offsite authority. When no Federal agency assumes the CFA role, the SFO's PIO will coordinate Federally generated public information.

2. Coordinated Release of Public Information at the Scene of the Emergency

Upon arrival at the emergency scene, the CFAO's PIO or, if none, the SFO's PIO, will ensure the establishment of Federal public information operations at the Joint Information Center (JIC) in cooperation with the owner or operator's pre-established information center, or separately, if necessary. Most nuclear power plant owners or operators have designated JIC locations and have made arrangements to establish and operate these centers in an emergency. The JIC at the scene of the emergency will provide the public and the media with adequate, accurate, and timely public information regarding a radiological emergency. Efforts will be made to colocate all Federal, State, local and owner or operator public information officials in the JIC. However, if space limitations at a nuclear power plant's designated information center preclude its use as a JIC and/or if the State designates another location for its public information activities, special efforts will be necessary to maintain close coordination between the Federal JIC and these other press centers. If the Federal PIOs and the State PIOs cannot co-locate at the JIC, FEMA will notify the State when and where the Federal JIC has been established.

Whenever practical, the establishment of Federal operations at the JIC will be undertaken by the CFA in coordination with FEMA, other appropriate Federal agencies, and State and local authorities. If FEMA's PIO or any other participating agency's PIO arrives at the scene of the emergency before the CFAO, the FEMA PIO or another agency's PIO may establish and manage Federal operations at the JIC until the CFAO arrives. Upon arrival, the CFAO or his/her PIO shall assume primary responsibility for Federal operations at the JIC. If there is no CFAO for the emergency, the SFO's PIO shall assume primary responsibility for Federal operations at the JIC. When there is a CFAO, the SFO's PIO will assume responsibility for coordinating Federal public information at the JIC from the CFAO's PIO at a mutually agreeable time. FEMA PIOs at the scene will provide support to the CFA during the period that the CFA has Federal operational responsibility for the JIC. FEMA's support will include coordinating public information activities of other Federal, State, or volunteer agencies at the scene but not located at the JIC with which FEMA has a pre-established relationship.

3. Coordinated Release of Public Information at the Headquarters Level

For some emergency situations it may be necessary to release public information prior to the establishment of Federal operations at the JIC. When this is the case, Federal agencies must coordinate the release of public information through their headquarters with the CFA headquarters PIO. The CFA headquarters PIO serves as the single point of contact at the national headquarters level for all Federal agency PIOs as well as for the media. The CFA headquarters PIO, in conjunction with FEMA headquarters, will establish procedures for coordinating the release of Federal public information with the State prior to release to the media. If no Federal agency assumes the CFA role for the emergency, than the FEMA headquarters PIO will coordinate Federal public information as described above.

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[4] DoE would also serve as the CFA if the emergency involved DoE owned or authorized nuclear facilities, or radioactive materials (including nuclear weapons and spent nuclear fuel in DoE custody).

Prior to the establishment of Federal operations at the JIC, Federal agencies will coordinate releases of public information both at the regional level and near the site of the emergency through their Washington, D.C. headquarters offices.

The agency headquarters points of contact for public information will continue to operate throughout the emergency, but once the JIC is established all Washington-based information must be coordinated through the JIC prior to release. The Washington centers may, however, handle overflow news media inquiries and serve as a platform for carefully selected, Washington-based specialists to supply background information, as required.

4. Coordinated Release of Information to Congress

Responses to Congressional requests for information will be coordinated among the Federal agencies whenever possible. The CFA Congressional Liaison Officer (CLO) at the headquarters Congressional Affairs Office will provide a single point of contact for all Federal agency headquarters CLOs and Congressional staffs seeking site-specific emergency information. As time and circumstances permit, all agency CLOs will either channel Congressional requests to this single point of contact, or coordinate their intended responses with it.

If no Federal agency assumes the CFA role for the emergency, the FEMA headquarters CLO will coordinate Congressional information as described above.

A FEMA CLO will be the point of contact at the scene of the emergency for all Federal agency CLOs and Congressional staff seeking information regarding the emergency and actions being taken to assist offsite authorities. The FEMA CLO will keep in frequent contact with the CFA CLO, if any, who will continue to be the primary point of contact in the Washington, D.C. area. The FEMA CLO will provide appropriate information to Members of Congress and/or their field staffs with assistance as necessary from the CFA and other Federal agencies. This formal procedure does not preclude communication and information exchange between Congressional representatives and Federal agencies. However, Federal responses will be coordinated among Federal agencies in the manner described above. The CFA CLO and the FEMA CLO will coordinate with each other on the information provided to the Congress as well as on information being provided to the public through operations at the JIC.

E. International Response Coordination

Although the geographic scope of the FRERP is limited to the United States its territories, possessions, and territorial waters, it is recognized that radiological emergencies occurring near international borders (i.e., near Canada and Mexico) could require international cooperative response efforts.

Therefore, the CFA and FEMA, in consultation with the Department of State and other Federal agencies as appropriate, should coordinate and cooperate at the time of the emergency with affected countries in accordance with already established protocols (e.g., treaties, bilateral agreements). If any contacts are made between Federal agencies and foreign governments during an emergency, this should be reported to the Department of State and FEMA. It is also desirable that requests for assistance from United States border countries as a result of domestic radiological emergencies should be coordinated with the Department of State and FEMA.

III. Federal Radiological Monitoring and Assessment Plan (FRMAP)

A. Foreword

The Federal Radiological Monitoring and Assessment Plan was developed to coordinate Federal radiological assistance. Although the FRMAP is part of the FRERP, it may be implemented separately. The FRMAP, originally required under a FEMA regulation issued on March 11, 1982, is a revised and update version of the planning and response concepts of the Interagency Radiological Assistance Plan (IRAP) and supersedes that plan. FRMAP and IRAP are very similar in concept, with the most notable changes occurring in the designation of participating Federal agencies and, in some cases, their expanded or revised responsibilities, e.g., FEMA. The FRMAP deals with the initiation and coordination of Federal radiological monitoring and assessment assistance, not each Federal agency's individual response.

The FRMAP establishes: (a) A means of requesting and providing Federal radiological assistance from existing Federal resources and (b) an operational framework for coordinating the radiological monitoring and assessment activities of Federal agencies during radiological emergencies occurring within the United States and its territories. The operational guidelines presented here apply to all radiological emergencies in which Federal assistance is requested.

At one end of the range of radiological emergencies, the FRMAP may be implemented without the FRERP. At the other end of the range, the radiological assistance provided through FRMAP may be only a small portion of the total Federal response to a major emergency. FRMAP applies primarily to offsite Federal radiological monitoring and assessment assistance and the technical support for these activities.

B. Purpose

The purposes of the FRMAP are as follows:

- To make needed radiological monitoring and assessment assistance available to Federal agencies, State and local governments with jurisdiction, and the general public through appropriate State and local agencies;
- To provide a framework through which Federal agencies will coordinate their emergency radiological monitoring and assessment activities in support of Federal, State, and local governments' radiological monitoring and assessment activities; and
- To assist State and local governments with jurisdiction in preparing for radiological emergencies by describing Federal assistance responsibilities.

C. Authority and Jurisdiction

DoE is assigned the responsibility for developing the FRMAP under authority of 44 CFR Part 351. The FRMAP is included in the FRERP to provide a single, comprehensive document that describes all Federal offsite assistance responsibilities. The agencies participating in the FRMAP, including agencies that joined FRMAP subsequent to 44 CFR Part 351, are: FEMA, the Nuclear Regulatory Commission (NRC), the Environmental Protection Agency (EPA), the Department of Health and Human Services (HHS); the Department of Energy (DoE); the Department of Agriculture (USDA); the Department of Defense (DoD); the Department of Commerce (DoC); and the Department of the Interior (DoI).

The FRMAP recognizes that the above agencies may have other radiological planning and emergency responsibilities as part of their statutory authority, as well as established working relationships with State counterpart agencies. The provisions of the FRMAP do not limit those responsibilities, but complement them by providing for a coordinated Federal response when emergency radiological assistance is requested. All FRMAP activities will support the monitoring and assessment programs of the State, the owner of the radioactive material involved or the operator of the nuclear facility, the assessment needs of the CFA, or be carried out to meet statutory responsibilities.

D. Policy

1. Federal agency plans and procedures for implementing the FRMAP will be consistent with any Federal radiological emergency planning requirements for State and local governments and specific facilities.

2. The participating Federal agencies will maintain facilities, equipment, and personnel to carry out their statutory responsibilities. Existing radiological monitoring and assessment capabilities developed to carry out those responsibilities will be made available to State and local authorities with jurisdiction, and to other Federal agencies in an emergency if other resources are not available.

3. The Federal agencies will make their resources available on request. An agency may decline to provide any needed resources only if doing so would prevent that agency from carrying out its essential mission and emergency functions.

4. During the emergency phase of the Federal response, the DoE will coordinate all Federal offsite radiological monitoring and assessment operations and integrate the data derived from those activities. EPA will assume the lead agency responsibility for coordinating the intermediate and long-term offsite radiation monitoring activities after receiving adequate assurance from the Department of Energy and other Federal agencies that they will commit the required resources, personnel, and funds for the duration of the Federal response effort. The full FRMAP response will be terminated when the EPA Administrator determines, after consultation with the CFA and State and local officials, that: (a) There is no longer a threat to the public health and safety or to the environment, or (b) State and local resources are adequate for the situation, or (c) the Federal agencies are carrying out only non-emergency statutory responsibilities, or (d) there is mutual agreement of the agencies involved to terminate their response.

5. An agency that makes its resources available, although under the general direction of DoE (or later, EPA), does not place itself under the authority of the coordinating agency.

6. DoE (or later, EPA) will maintain a common and consistent set of all offsite radiological monitoring data and provide it, with interpretation, to the CFA, to the States, and to groups that these agencies designate, as well as to other Federal agencies involved in the emergency response. The principal description of the combined offsite and onsite radiological conditions will come from the CFA and the State.

7. The Federal radiological monitoring and assessment response will be in support of, and coordinated with, that of the State and local governments with jurisdiction. The resources of DoE and the participating agencies will be used only when State and local resources are not adequate. All offsite activities will be coordinated with those of the State.

8. Federal assistance will be initiated when the Federal Radiological Emergency Response Plan is in effect, or through a request from a State or local government, another Federal agency or private entity, or (in rare cases) when DoE, after notification of an incident, but in the absence of implementation of the FRERP or formal State request, believes it must respond to meet statutory requirements to protect public safety. Whenever DoE responds without a State request, the State will be notified by DoE. Requests from private entities will be referred to the State before any decision on response is made to ensure there will not be a duplication of effort.

9. Agencies carrying out statutory responsibilities related to radiological monitoring and assessment during a Federal response will also coordinate their activities through DoE (or later, EPA). This coordination will not limit the normal working relationship between a Federal agency and its State counterpart nor restrict the flow of information from that agency to the State.

10. Federal agencies, as their resources permit, will assist other Federal agencies and State and local governments with planning and training activities designed to improve local response capabilities, and will cooperate in drills, tests, and exercises.

11. Appropriate independent emergency actions may be taken by the participating Federal agencies on their own authority to save lives, minimize immediate hazards, and gather information about the emergency that might be lost by delay. Such action will not preempt later implementation of the FRMAP.

12. Funding for each agency's participation in support of the FRMAP is the responsibility of that agency unless provided for by other agreements.

E. Organization

1. General Principles

The FRMAP addresses the coordination of the participating agencies' support of offsite monitoring and assessment efforts. The organization of the FRMAP emergency response and the roles of some agencies under FRMAP will depend on the specific emergency, but will follow the principles outlined in the Federal Radiological Emergency Response Plan. Information generated from the FRMAP response is provided to the CFA and to the appropriate State authorities.

2. Involvement of Non-Participating Agencies

In some cases, other Federal agencies may become involved with FRMAP activities. The State Department would be involved if an incident occurring within the United States or its territories affected areas outside United States territory or if monitoring efforts needed to be coordinated across an international border. The Federal Bureau of Investigation (FBI) would have the principal role in the investigation of all emergencies where terrorism or deliberate release of radioactive materials is suspected, or in cases of threats against nuclear facilities or materials. The major FBI interfaces, however, are expected to be with the CFA and FEMA. Even when the FBI is involved, DoE/EPA will coordinate monitoring functions with their State counterparts.

3. Coordination of a Limited Response

The FRMAP recognizes that the appropriate response to a request for Federal radiological assistance may take many forms, ranging from advice given by telephone to a large Federal monitoring and assessment operation at the scene of a serious emergency. Most of the following guidelines for participating agencies are designed for the latter situation, but the FRMAP is also applicable to lesser incidents where a limited response, possibly by DoE alone, is sufficient.

F. Responsibilities of Participating Agencies

1. Responsibilities During Emergencies

Cognizant Federal Agency. The CFA's primary emergency response responsibilities are stated in the previous chapter at C.1. The CFA will also contribute to the FRMAP as follows:

a. Ensure that DoE, Federal, State, and local officials are notified quickly of a radiological emergency;

b. Provide pertinent onsite technical and radiological data to the DoE or EPA Offsite Technical Director (OSTD) and State and local officials; and

c. Utilize FRMAP data, as appropriate, to develop the Federal technical recommendations on protective measures and evaluate the facility or radiological activity owner or operator's recommendations. The presentation of these recommendations to the State or other offsite authority will be coordinated with FEMA.

Department of Energy. DoE's offsite responsibilities are:

a. Coordinate the offsite radiological monitoring, assessment, evaluation, and reporting activities of all Federal agencies during the initial phases of an emergency while maintaining technical liaison with State and local agencies with similar responsibilities.

b. Maintain a common set of all offsite radiological monitoring data and provide these data and interpretation, including any Federal dose projections, to the CFA and the State on an expedited basis to assist in developing other protective measures and re-entry recommendations for the public. The CFA will provide these data to other appropriate Federal agencies requiring direct knowledge of radiological conditions.

c. With other appropriate agencies, including those agencies with responsibilities for the ingestion pathway (e.g., EPA, HHS, and USDA), help the CFA to assess the accident potential and to develop technical recommendations on protective actions, and assist the State in preparing re-entry recommendations and in recovery planning.

d. Provide the personnel and equipment required to coordinate and, in cooperation with other Federal components, to perform the offsite radiological monitoring and evaluation activities.

e. Request supplemental radiological monitoring assistance from other Federal agencies when needed, when requested to do so by the State, or if considered necessary to maintain the credibility of the offsite assessment.

f. Request meteorological, hydrological, geographical, etc., data needed for monitoring and assessment efforts.

g. Provide consultation and support services to all other entitities (e.g., private contractors) with radiological monitoring functions and capabilities.

h. Assist HHS and other Federal, State, and local agencies by providing technical and medical advice on the methods of handling radiological contamination.

i. Assist the other Federal, State, and local agencies in early planning for decontamination and recovery of the offsite area and make recommendations to avoid the spread of contamination by improper emergency operations.

j. Provide telecommunications support to Federal agencies assisting in offsite radiological monitoring, if necessary.

k. Ensure the orderly transfer of responsibility for coordinating the intermediate and long-term radiological monitoring function to EPA at a mutually agreeable time after the initial phases of the emergency if the need for Federal radiological assistance continues.

Environmental Protection Agency. EPA will assume the lead agency responsibility for coordinating the intermediate and long-term offsite radiation monitoring activities after receiving adequate assurance from the Department of Energy and other Federal agencies that they will commit the requested resources, personnel, and funds for the duration of the Federal response effort. Once the coordination responsibilities are transferred from DoE and EPA, EPA will assume the DoE role described above. Prior to assuming coordination responsibility, EPA will function as one of the other participating agencies.

Federal Emergency Management Agency. FEMA has a major role in all situations involving a multi-agency response. In addition to coordinating the offsite (non-technical) response under the FRERP, FEMA may contribute to FRMAP by obtaining telecommunications and logistical support for agencies participating in radiological monitoring and assessment as requested by DoE or EPA as FRMAP coordinators.

Other Participating Agencies. Each participating agency will carry out its statutory responsibilities and any other responsibilities under the FRERP, if the FRERP is implemented, during the course of the radiological emergency. All radiological monitoring and assessment activities conducted as part of the statutory responsibilities will be coordinated with the other participating agencies through DoE and later, EPA. Each agency will make its radiological resources and capabilities available to the Federal assistance operations as resources permit.

2. Responsibilities for Training and Exercises

To improve the response capability of the participating agencies and the State and local personnel with whom they interact, the FRMAP encourages the development of training materials and presentation of training sessions by all agencies and at all levels. Radiological emergency response training should be oriented toward ensuring proper emergency actions at the scene of a radiological emergency, informing the public, and effecting a prompt return to normalcy. In addition to agency personnel, personnel who may be trained include those likely to be at the scene of the accident, such as personnel of a fixed nuclear facility, personnel providing emergency serices, those experts responding to calls for radiological assistance, and local authorities who need to work with State and Federal emergency radiological assistance personnel. Federal assistance in training State and local government personnel is available through FEMA (under 44 CFR Part 351), using the technical expertise and resources of other FRMAP agencies.

Exercises of the FRMAP aspect of the FRERP are encouraged among Federal, State, and local agencies. Exercises may occur independently or in conjunction with other exercises, such as State/facility emergency plan exercises or exercises of the FRERP. Each agency should coordinate its training programs and exercises through the Federal Radiological Preparedness Coordinating Committee (FRPCC) Subcommittee on Training and Exercises to avoid duplication and to make its training available to other agencies. Each agency is encouraged to furnish training materials and training assistance, as its resources permit, when requested to do so by other agencies.

G. Types of Emergencies

Three types of emergencies have been previously described in the FRERP. Each type of emergency may present different types of response problems.

Fixed nuclear facilities, including nuclear power reactors, have the advantages of known locations and existing site-specific emergency plans. Classifications of incident severity have been development for many of these facilities, and the level of FRMAP response may be guided by these classifications. The NRC has adopted four classifications for incidents at commercial nuclear power plants: Notification of Unusual Event; Alert; Site Area Emergency; and General Emergency. DoD and DoE have chosen the same four classifications for their nuclear facilities, although the type of possible incident would depend on the type of facility. In general, for facilities using these classifications, offsite monitoring and assessment activities would be expected only during a Site Area Emergency or a General Emergency. Substantial offsite radiological problems would be expected only during or following a General Emergency condition. Mobilization and activation could occur under an Alert if degradation of the level of safety at the facility or other conditions (public concern, unfavorable weather, lack of resources) warrant such action.

Response to transportation accidents is more difficult to plan, as such accidents may occur anywhere, may involve a variety of radioactive materials, and may represent much less of a radiological hazard or serious threat to the public. In most cases, State resources or a limited Federal response will suffice.

H. Operating Procedures

1. Notification and Activation

Notification of DoE and other participating agencies may occur through an alert to a possible problem or a request for radiological assistance. DoE will maintain national and regional coordination offices as points of access to Federal radiological emergency assistance and response. Requests for Federal radiological assistance will generally be directed to the appropriate DoE Radiological Assistance Regional Coordinating Office. An exception to this is a request from the DoD, which will be made through the DoD-DoE Joint Nuclear Accident Coordinating Center (JNACC) at Kirtland AFB in Albuquerque, New Mexico. Requests might also go directly to DoE's Emergency Operating Center (EOC) in Germantown, Maryland.

Requests for radiological assistance may come from other Federal agencies, State or local governments, licensees for radioactive materials, industries, or the general public. Requests from the general public will be referred to the State before any decision on response is made to ensure there will not be a duplication of effort. Although activation of a response under the FRMAP can occur at the request of other agencies, authorities, and coordinating centers, a State request for assistance will be obtained before major offsite operations begin.

The DoE regional office may respond by dispatching a Radiological Assistance Program (RAP) team, by requesting assistance from a regional office of another participating agency, or by referring the request to an appropriate State agency that can provide prompt assistance. The State will be notified when a RAP team is being sent. In addition, the DoE regional office will notify the Director of DoE's Emergency Action and Coordination Team (EACT) through the Emergency Operating Center (EOC) when the DoE regional office needs assistance or has responded to a request for assistance. EACT may choose to alert or activate major DoE response resources. If the initial request comes directly to the EOC, its staff will alert or dispatch a RAP team from the appropriate regional office.

The DoE EOC will notify, as necessary, DoC/NOAA, DoD, DoI, EPA, FEMA, HHS, NRC, and USDA in accordance with agreed-upon FRMAP notification procedures, to request their assistance if significant Federal involvement may be required. DoE, in its role as coordinator, may choose to contact, or may be contacted by, any of the participating agencies, but unless DoE is also the DVA, DoE will not be the primary source of general information about the incident.

Notification of FRMAP agencies may be delayed or omitted if necessary to avoid interfering with investigations of threats against nuclear facilities or materials. In some cases, notification may be made, but information not critical to the monitoring and assessment activities can be restricted by an ongoing criminal investigation. Restrictions on classified information may also prevent total disclosure to other participating agencies.

Agencies responding under FRMAP will usually arrive in stages, with advance teams preceding more fully equipped teams. Agencies will anticipate State needs to the maximum extent possible and respond as quickly as practical. However, it should be recognized that the logistics of any major response operation make the expectation of an immediate response to all State requests unrealistic.

2. Coordination at the Emergency Scene

DoE's Emergency Action and Coordination Team (EACT) at headquarters will designate an initial Off Site Technical Director (OSTD) for any emergency requiring more than a limited Federal response. The OSTD ensures that the DoE responsibility for coordinating offsite monitoring and assessment is met. Upon arrival at the scene of the emergency, the OSTD will contact the State or local agency responsible for radiological monitoring, and the senior officials of the CFA, FEMA, and EPA present at the emergency scene.

The person designated as OSTD may vary as the nature and degree of response change. For example, the OSTD will generally be the RAP team captain during the early response. As additional resources or additional RAP teams arrive, EACT may designate a higher-level official from a regional office of an official from DoE headquarters as OSTD. DoE will notify the appropriate participating agencies when these designations are made. In emergencies where DoE is also the CFA or has onsite responsibilities by agreement, the OSTD will coordinate the FRMAP activities, reporting to the CFAO through the designated DoE Team Leader. (The DoE Team Leader is the DoE official who coordinates the total DoE response.)

The OSTD is responsible for establishing a Federal Radiological Monitoring and Assessment Center (FRMAC) to be used as a coordination center for Federal monitoring efforts. This center need not be located near the emergency site or the Federal Response Center (FRC) as long as its actions can be coordinated with those centers. In some instances, the FRMAC location may have already been determined and included as part of a Federal agency, State, or local emergency plan. When the FRMAC location has not been previously determined, a location will be selected after conferring with the State. The location of the FRMAC will be reported to the CFA, FEMA, and State officials at the scene, and DoE headquarters will inform the headquarters of other appropriate participating agencies. When the FRC and FEMA and not located together, the OSTD will designate a liaison to the FRC and FEMA will designate a liaison to the FRMAC to facilitate coordination between centers. Representatives of all agencies participating in the FRMAP response should be present in the FRMAC, if possible.

The DoE OSTD will work closely with the EPA Radiological Response Coordinator to facilitate a smooth transition of the coordination responsibility to EPA at a mutually agreeable time and after consultation with the State. It is difficult to specify in advance when this transfer could occur, but it would generally be expected to take place after the immediate emergency situation is stabilized, offsite releases of radioactive material have ceased, and the offsite radiological conditions have been documented and their consequences have been assessed. In the case of an accident at a nuclear power plant, for instance, the transfer of responsibility might take place at a mutually agreeable time after NRC has determined the plant to be in stable condition.

After this transfer, a person designated by EPA's Office of Radiation Programs will serve as the OSTD and will assume the coordination responsibilities of the DoE OSTD. Other participating agencies will be responsible for coordinating their monitoring activities through the EPA OSTD as long as the FRMAP response continues.

3. Public Information

Public information activities relative to FRMAP operations will be coordinated in accordance with the FRERP. Each particiating agency is responsible for preparation of press releases about its own response activities in support of FRMAP. However, information for the public about the results of the Federal radiological monitoring should be coordinated through the CFA and FEMA. The participating agencies may supply public information personnel or technical experts to assist the CFA, FEMA, or State in their public information efforts.

Security considerations may restrict available information when classified nuclear material or facilities are involved. Information may also be temporarily withheld from the public in emergencies involving terrorism or sabotage to avoid interfering with an ongoing criminal investigation.

When the Federal response is limited, public information may be handled locally by appropriate Federal or local officials.

4. Congressional Information

Responses to Congressional requests for information will be coordinated among the Federal agencies as provided for in the FRERP.

5. Reimbursement

As stated in Section D, funding for each agency's participation in support of FRMAP is the responsibility of that agency, unless other agreements are in effect. This will be the case regardless of whether the activities were initiated by statutory responsibilities or by the request of another agency.

I. Supporting Agreements

Several interagency agreements have been signed that pertain to the offsite monitoring and assessment activities covered by FRMAP. Authority for each agency's role during a radiological emergency is contained within the authorities cited in each agency's response plan summary in the following chapter.

IV. Federal Agency Interfaces and Response Plan Summaries

To facilitate the coordination of Federal agency response actions, this section defines and summarizes Federal agency interfaces—those activities for which two or more agencies have related responsibilities. The interfaces among Federal agencies are determined in large part by the nature and severity of given emergencies. This section also contains summaries of the response plans of the participating Federal agencies, which provide agency mission statements, contact points for notification, Federal interfaces, plan references, and sources of authority.

A. Federal Agency Interfaces

Federal agency interfaces are necessary for a coordinated Federal response. These interfaces, describing how various Federal agencies will work together, are the planning elements that promote coordination in the Federal response. Some of these interfaces were described explicitly in the preceding sections; others are in the individual agency response plans and procedures. The interfaces are summarized and catalogued alphabetically in this section to provide a comprehensive reference list for participating agencies and other offsite authorities. This catalogue also serves as a glossary, since only the titles of these interfaces are used in the agency response plan summaries that follow.

Activation and Deployment (Procedures)

FEMA will execute operational response procedures as agreed to with each potential CFA to ensure that notification, activation, and deployment of Federal agencies take place in a timely, efficient, and mutually agreeable manner and in accordance with procedures in their agency plans.

Advise on Transportation of and to Emergency Housing

HUD may consult with DoT for advice on the best means for transporting dislocated persons to emergency housing or on transporting emergency housing to dislocated persons.

Congressional Information

Agency Congressional Liaison Officers (CLOs) will coordinate Congressional requests with the CFA Congressional Liaison Officer at headquarters or the FEMA CLO who will be the Congressional point of contact at the scene of the emergency. The CFA Headquarters CLO and FEMA CLO will keep in frequent contact.

Coordination (Liaison)

Agencies will provide or exchange liaison representatives, as necessary, to assist in the exchange of information among agencies.

Coordination (Offsite)

Federal agencies providing offsite assistance to State and local government agencies will coordinate this assistance through the SFO whenever Federal agencies share the implementation of certain responsibilities or when their activities may impinge on the actions of other agencies.

Coordination (Onsite/Offsite)

The SFO and the CFAO will work together directly and through their representatives at the scene, whether co-located or located at separate response centers, to coordinate the response efforts of the Federal agencies off site with the response efforts of the CFA and owner or operator on site.

Designation of Agency Lead Official

Each agency will exchange with FEMA appropriate information about its designated lead official and personnel at the scene, if any.

Emergency Shelter Availability

HUD and HHS will coordinate their assistance to State and local government officials in providing emergency shelter for relocated persons.

Federal Lands

The CFA and FEMA will coordinate with any affected Federal land management agencies (DoI, USDA, DoD, TVA) about response activities to ensure that they are consistent with governing Federal statutes.

Federal Response Center

Upon notification by FEMA of the location and establishment of the Federal Response Center, each Federal agency with representatives at the scene of the emergency will provide representation to the Center if possible.

FRMAP (Coordination With FRERP)

DoE or EPA will coordinate FRMAP monitoring and assessment activities with other Federal offsite assistance being provided to the State through the SFO.

FRMAP (Liaison)

Upon arrival at the scene, the DoE Offsite Technical Director (OSTD) will establish liaison with State and local officials, the CFA, FEMA, and EPA.

FRMAP (Monitoring Results)

DoE will coordinate Federal monitoring activities for the CFA and in support of the State during the initial stages of the emergency. The CFA, other Federal agencies, and the State will work with DoE to develop a comprehensive assessment of the offsite radiological monitoring data. The results of the assessment will be provided to the CFA and the State for further evaluation and distribution.

FRMAP (Notification)

DoE will notify Federal agencies that have FRMAP responsibilities in accordance with agreed-upon notification procedures.

FRMAP (Resources)

In making their resources available to support the FRMAP, all participating Federal agencies will coordinate their activities with DoE. When EPA has assumed the coordination responsbilities from DoE, participating Federal agencies will coordinate their activities with EPA.

FRMAP (Transition)

After the emergency phase of the response, DoE will transfer FRMAP coordination responsibilities to EPA at a mutually agreeable time.

Food/Feed Availability

USDA and HHS will coordinate their assistance to State and local government officials to ensure the availability of food and feed during emergencies.

Food/Feed Safety Recommendations

HHS and USDA, in coordination with the CFA, will jointly develop recommendations concerning the safety of food and animal feed.

Impact Assessment (Agriculture)

USDA will coordinate with HHS and EPA to assist State and local officals, as requested, in the disposition of contaminated livestock and poultry.

Impact Assessment (Health)

HHS will assist the CFA, FEMA, EPA, DoE as FRMAP coordinator, and, if requested, the State in assessing the impact of the radiological emergency on the health of persons in the affected area.

Indian Tribes

DoI (tribal government and trust resources issues) and HHS (health and safety issues) are available to assist the CFA and FEMA in consulting and coordinating with Federally recognized Indian tribes about incidents, responses, and protective measures affecting them.

Information Exchange

FEMA will establish a mechanism to facilitate the timely exchange of information among responding Federal agencies.

Information Requirements

CFA, DoE/EPA, and FEMA will satisfy the mutually agreed-upon information requirements specified by each participating Federal agency during the planning process.

International Cooperation (CFA)

The CFA, in consultation with FEMA, the Department of State, and other Federal agencies as appropriate, will cooperate with government counterparts in Canada and Mexico as agreed to in already established protocols in responding to radiological emergencies occurring near U.S. borders. The CFA will also provide appropriate and timely information directly to its counterparts in Mexico and Canada at the time of emergency.

International Cooperation (FEMA)

FEMA will work with the Department of State and other Federal agencies at the time of an emergency to ensure that affected or potentially affected countries are kept fully informed.

Logistical Support for Federal Agencies

FEMA will assist in obtaining resources needed by the CFA and other Federal agencies at the emergency scene.

Marine Fishery Product Safety

The Department of Commerce will provide support to HHS/FDA at its request on matters of fishery product safety (marine areas only).

Monitoring Resources (EPA)

EPA will provide resources to assist DoE in monitoring radioactivity levels in the environment during the emergency phase of the incident and, during the intermediate and long-term phase, will coordinate Federal radiological monitoring and the evaluation of actual environmental impact.

Notification (CFA)

The CFA, after receiving notification of the emergency, will notify FEMA and other Federal agencies in accordance with the CFA's notification procedures. This notification will include a description of the CFA's response status and current activities, a general assessment of the emergency, and any other information available.

Notification (FEMA)

FEMA will notify Federal agencies of the emergency situation and supply them with all relevant information available.

Other Protective Measures and Re-entry Recommendations (RERs) (Development)

The CFA will consult as appropriate with FEMA, DoE, EPA, HHS, USDA, and other Federal agencies in developing advice for the State regarding other protective measures and re-entry recommendations for the public.

Other Protective Measures and Re-entry Recommendations (RERs) (Presentation)

The CFA, in conjunction with FEMA and other appropriate Federal agencies, will present a coordinated Federal position on other protective measures and re-entry recommendations for the public to the State or other appropriate offsite authorities.

Protective Action Recommendations (Development)

Unless the public health and safety are in imminent peril, the CFA will consult as appropriate with FEMA, HHS, EPA, USDA, DoE, and other Federal agencies in preparing a coordinated Federal position on protective action recommendations, taking into consideration appropriate Federal and State Protective Action Guides when such recommendations are necessary.

Protective Action Recommendations (Presentation)

Unless the public health and safety are in imminent peril, the CFA, in conjunction with FEMA, will present an evaluation of protective action recommendations (PARs) to the State or other appropriate offsite authority, as requested.

Protective Action and Re-entry Recommendations Dissemination (CFA)

The CFA will inform DoE or EPA, as coordinators of Federal offsite radiological monitoring, of protective action and re-entry and other protective measures recommendations made to the State, and of any decisions or actions taken by the State based on those recommendations.

Protective Action and Re-entry Recommendations Dissemination (FEMA)

FEMA shall inform Federal agencies at the national level and at the Federal Response Center of protective action and re-entry recommendations made to the State and of any decisions or actions taken by the State based on those recommendations.

Protective Action Implementation (Food)

USDA, in coordination with HHS, will assist State and local officials in the implementation of protective measure to minimize radiation exposure to the public through food ingestion, and will inform FEMA of such assistance.

Public Information Releases from Headquarters

Federal agencies' headquarters PIOs will either channel media information requests to the CFA's PIO at the CFA headquarters or coordinate their intended public information releases through him/her prior to release.

Public Information Releases from the JIC

Federal agencies' PIOs will work together to promote the coordinated release of public information through the JIC.

Radiation Victim Care advice

DoE will provide HHS and other Federal, State, and local agencies with advice and medical resources to the extent available to assist in the handling and care of radiation accident victims if requested.

Recovery Planning

Prior to the Deactivation of the Federal response, FEMA will coordinate Federal assistance to the State, as requested, in planning for offsite recovery.

Status Updates

Agencies at the scene of the emergency prior to the arrival of the CFA, FEMA, and DoE will provide a status update on their activities when each of these agencies arrives at the scene of the emergency. Subsequent agency status updates will be provided to the CFA, FEMA, and DoE on a recurring basis as requested and to EPA upon transfer of the FRMAP coordination responsibility from DoE.

Water Projects

Federal water resources project managers (DoD, DoI, TVA) will coordinate the operation of their projects with the appropriate agencies to ensure protection of municipal (EPA) and agricultural (USDA) water supplies and fish and wildlife (DoC, DoI) during radiological emergencies.

DoC and DoD will provide weather support capabilities for radiological emergencies, backing up one another when required, and may call on additional support from other agencies, as necessary.

White House Information

The CFA will notify the White House of the incident. After the intial report, the CFA will prepare the section of FEMA's White House reports dealing with onsite conditions and their actual or potential offsite impacts. Based on information provided by the SFO and the other Federal agencies, FEMA will provide periodic executive summaries to the President and advise the White House daily of the overall Federal response.

White House Responses

All responses to the White House will be coordinated with FEMA. The agency receiving the inquiry will have lead responsibility for preparing and transmitting the response.

B. Summaries of Federal Agency Response Plans

This section provides summaries of the response plans prepared by participating Federal agencies:

Department of Commerce (DoC)
Department of Defense (DoD)
Department of Energy (DoE), CFA and FRMAP
Department of Health and Human Services (HHS)
Department of Housing and Urban Development (HUD)
Department of the Interior (DoI)
Department of Transportation (DoT)
Environmental Protection Agency (EPA)
Federal Emergency Management Agency (FEMA)
National Communications System (NCS)
Nuclear Regulatory Commission (NRC)
U.S. Department of Agriculture (USDA)

Each summary provides a mission statement, the agency contact point for notification, Federal agency interfaces, assistance responsibilities to Federal, State, and local governments, agency response plan and procedure references, and sources of agency authority. For ease of updating, emergency telephone and facsimile numbers are provided in Appendix C.

Department of Commerce Response Plan Summary

1. Summary of Response Mission

The National Oceanic and Atmospheric Administration (NOAA) is the primary agent within the Department of Commerce responsible for providing assistance to the Federal, State, and local organizations responding to a radiological emergency. NOAA's responsibilities include: Acquiring weather data and providing weather forecasts in connection with the emergency; disseminating weather and emergency information; and ensuring that marine fishery products available to the public are not contaminated.

2. Point of Notification at DoC Headquarters

Contact Person's Title: Chief, Applied Services Branch.

Contact Person's Organization: National Weather Service Headquarters.

Alternate Emergency Point of Contact: NOAA/NWS Communications Branch.

3. Federal Department or Agency Interfaces

Listed below are DoC's interfaces with other Federal departments and agencies in responding to a radiological emergency.

DEPARTMENT OF COMMERCE FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible DoC organization
Status updates, information requirements, and public information releases from Joint Information Center (JIC).	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	NOAA.
Federal response center	FEMA	NOAA.
Recovery planning	FEMA	NOAA/National Marine Fisheries Service (NMFS).

DEPARTMENT OF COMMERCE FEDERAL AGENCY INTERFACES—Continued

Interface description	Agencies	Responsible DoC organization
Public information from headquarters, and congressional information.	DoD (CFA), DoE (CFA), NRC (CFA) during emergency phase; FEMA during recovery phase.	NOAA.
Notification	FEMA, NRC	NOAA/National Weather Service (NWS).
Fishery Product Safety	HHS/FDA	NMFS.
Information exchange, logistical support for other Federal agencies, coordination (offsite), and designation of agency lead official.	FEMA	NOAA.
Water projects	DoD (Army Corps of Engineers), DoI, USDA	NOAA/NMFS.
Weather support	DoD	NWS.
FRMAP (notification)	DoE	NWS.
FRMAP (resources)	DoE, EPA	NWS.
White House responses	FEMA	NOAA.

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Prepare and disseminate forecasts and warnings for sever weather such as hurricanes, tornadoes, severe thunderstorms, floods, extreme winter weather, and tsunamis to local officials and the general public.
- Broadcast, watches and warnings of natural disasters prepared by NOAA, and radiological emergency warnings approved by the States, over NOAA Weather Radio and other NOAA dissemination systems.
- Provide to the CFA, DoE, and the State, current and forecast meteorological information about wind speed and direction, low level stability, precipitation, and other meteorological and hydrological factors affecting the transport or dispersion of radioactive materials (gaseous, liquid, particulate).
- Provide support to HHS/FDA at its request, through the National Marine Fisheries Service (NMFS), in order to avoid human consumption of contaminated commercial fishery products. (Marine areas only.)

5. DoC Response Plan and Procedure References

Agency Response Plan

1. *National Plan for Radiological Emergencies at Commercial Nuclear Power Plants.* Federal Coordinator for Meteorological Services and Supporting Research, National Oceanic and Atmospheric Administration, November 1982.

6. DoC Specific Authorities

- *Department of Commerce Organization Order 25–5B,* as amended August 18, 1980.

Department of Defense Response Plan Summary

1. Summary of Response Mission

a. The Department of Defense is charged with the safe handling, storage, maintenance, assembly, and transportation of nuclear weapons, nuclear weapon components, and other radioactive material in DoD custody, and with the safe operation of DoD nuclear facilities. Inherent in this responsibility is the requirement to protect life and property from any health or safety hazards that could ensue from an accident or significant incident associated with these materials or activities. To fulfill these responsibilities, the DoD has issued plans and policy guidance requiring the development of a well-trained and equipped nuclear accident response organization. It should be noted that in order to protect national security information, policy guidance prohibits public release of information that identifies storage locations of nuclear materials, schedules of transportation of nuclear materials, or the schedules of nuclear-powered vessels. When DoD is not the CFA for a radiological emergency, it will support the CFA and FEMA within the constraints of national security.

b. The responsibility for onsite Command and Control at the scene of a nuclear accident or significant incident is assigned to:

(1) The Service or Agency in charge of a DoD installation, DoE facility, naval ship, or assigned geographic area where the accident or incident occurs.

(2) The Service or Agency having custody of the material at the time of the accident or significant incident if the accident occurs beyond the boundaries of a DoD installation, DoE facility, naval ship, or geographic area.

c. The National Military Command Center (NMCC) is responsible for initial national-level command and control and response of DoD resources and personnel until conditions have stabilized. Command and Control will be transferred to the responsible Service Operations Center, as Directed by the Secretary of Defense or his authorized representative. The NMCC will continue to provide information and support as required.

2. Point of Notification at DoD

Contact Person's Title: Deputy Director of Operations (DDO).

Contact Person's Organization: National Military Command Center, Organization of the Joint Chiefs of Staff.

3. Federal Department or Agency Interfaces

Listed below are DoD's interfaces with other Federal departments and agencies in responding to a radiological emergency.

DEPARTMENT OF DEFENSE FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible DoD organization
Notification (CFA)	DoE, FEMA	NMCC.
Activation and deployment (procedures)	FEMA	NMCC.
Status updates	White House situation room, EPA, FEMA, USDA, HHS, DoE, NRC, DoJ.	NMCC.
Federal lands	DoE, DoI, USDA	NMCC.
FRMAP (notification)	EPA, HHS, USDA, DoC, DoE	NMCC.
FRMAP (coordination with FRERP)	DoE	NMCC.
FRMAP (liaison)	FEMA, DoE	NMCC.
Indian tribes	DoI, HHS	NMCC.
Recovery planning	FEMA	Department of Army.
Information exchange, public information releases from the JIC, public information releases from headquarters.	DoE (CFA), NRC (CFA) during emergency phase; FEMA during recovery phase.	NMCC, OSD or service public affairs.
PAR (development)	FEMA, EPA, HHS, USDA, DoE (FRMAP), EPA (FRMAP)	NMCC.

DEPARTMENT OF DEFENSE FEDERAL AGENCY INTERFACES—Continued

Interface description	Agencies	Responsible DoD organization
PAR (presentation)	FEMA	NMCC.
RER (development)	FEMA, EPA, HHS, USDA	NMCC.
RER (presentation)	FEMA	NMCC.
PAR and RER dissemination (CFA)	DoE (FRMAP), EPA (FRMAP)	NMCC.
Congressional information	FEMA, DoE (CFA), NRC	OSD or service public affairs, congressional liaison offices
Logistical support for the CFA	FEMA	NMCC or Department of Army.
Logistical support for Federal agencies	FEMA	NMCC or Department of Army.
Coordination (onsite/offsite)	FEMA	NMCC.
Designation of agency lead official	FEMA	NMCC.
Federal response center	FEMA	NMCC.
Water projects	DoI	Army Corps of Engineers.
White House information, White House responses	FEMA	OSD.

4. Responsibilities for Assistance to Federal, State, and Local Governments

a. Offsite authority and responsibilities at a nuclear accident rest with State and local officials. It is important to recognize that for nuclear weapons or weapon component accidents, land may be temporarily placed under effective Federal control by the establishment of a National Defense Area (NDA) or National Security Area (NSA) to protect U.S. government classified materials. These lands will revert back to State control upon disestablishment of the NDA or NSA.

b. The State Governor is responsible for the health, safety, and welfare of individuals within the territorial limits of the State during periods of emergency or crisis and may be expected to direct measures that must be taken to satisfy that responsibility. The On-scene Commander will assist the State, when possible, in coordination with FEMA, to ensure the public is protected.

c. Within the constraints of national security, provide military assistance in the form of manpower and logistic support, including aircraft services, as requested by FEMA.

d. Provide telecommunications support not available from other Federal agencies when requested by FEMA.

5. DoD Response Plan and Procedures References

Agency Response Plan

1. *Nuclear Weapon Accident Response Procedures (NARP) Manual*—January 1984.
2. DoD Directive 5100.52 *Radiological Assistance in the Event of Accident Involving Radiological Materials*—10 March 1981.
3. DoD Directive 5230.16 *Nuclear Accident and Incident Public Affairs Guidance*—7 February 1983.

6. DoD Specific Authorities

- The Atomic Energy Act of 1954, as amended.
- Pub. L. 97–351 "Convention on the Physical Protection of Nuclear Material Implementation Act of 1982".

Department of Energy Response Plan Summary (CFA)

1. Summary of Response Mission

The Department of Energy owns and operates a variety of fixed nuclear facilities and activities throughout the United States. Most of these facilities are located on large, government-owned reservations, and are operated by extensive technical staffs under the direction of DoE. Subject to review and concurrence by DoE headquarters, DoE officials at these field facilities are responsible for the preparation of emergency plans and procedures for all nuclear activities under their jurisdiction. DoE field officials have the authority to initiate immediate emergency response procedures, direct emergency shutdown operations, or place in safe condition the nuclear facilities and activities under their cognizance. DoE is the Cognizant Federal Agency (CFA) for nuclear activities under its jurisdiction. All field emergency activities are coordinated with appropriate headquarters officials, including the Director, Emergency Action and Coordination Team (EACT).

DoE field officials are also required to assist State and local authorities, within the constraints of national security and in coordination with FEMA, in the preparation of those portions of their radiological emergency plans related to DoE nuclear facilities.

As part of its preparedness activities, DoE maintains extensive, field-based radiological emergency response resources for deployment under the FRMAP.

2. Point of Notification at DoE Headquarters

Contact Person's Title: Emergency Coordinator.

Contact Person's Office: DoE Emergency Operations Center (EOC).

Contact Person's Emergency Location: DOE EOC.

3. Federal Department or Agency Interfaces

Listed below are the DoE's interfaces with other Federal departments or agencies in responding to a radiological emergency at a DoE facility:

DEPARTMENT OF ENERGY FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible DoE organization
Notification (CFA)	FEMA, NRC, EPA, HHS	EACT, field.
Activation and deployment (Procedures)	FEMA	EACT.
Status updates	DoC, DoD, NRC, EPA, FEMA, HHS, HUD, DoI, NCS, DoT, USDA.	Emergency action and coordination team (EACT), field.
Federal lands	DoD, DoI, USDA	EACT, field.
FRMAP (resources)	NRC, EPA, DoC, DoD, DoI	EACT, field.
Impact assessment (health)	HHS, EPA	Field, EACT.
Indian tribes	DoI, HHS	Field, EACT.
Information exchange	DoC, DoD, NRC, EPA, FEMA, HHS, HUD, DoI, NCS, DoT, USDA.	EACT, field.
Public information releases from headquarters, public information releases from JIC	DoD (CFA), NRC (CFA) during emergency phase; FEMA during recovery phase.	EACT, Assistant Secretary for Congressional, intergovernmental and public affairs (ASCP) or field.

DEPARTMENT OF ENERGY FEDERAL AGENCY INTERFACES—Continued

Interface description	Agencies	Responsible DoE organization
Congressional information	DoC, DoD, NRC, EPA, FEMA, HHS, HUD, DoI, NCS, DoT, USDA	ASCP
PAR (development)	FEMA, NRC, EPA, HHS, USDA	
PAR and RER dissemination (CFA)	DoE (FRMAP), EPA (FRMAP)	Field, EACT
PAR (presentation), logistical support for Federal agencies, coordination (onsite/offsite), information exchange, White House information, designation of agency lead official, international cooperation (CFA), Federal response center.	FEMA	Field, EACT.
RER (development)	FEMA, EPA, HHS, USDA	Field.
RER (presentation)	FEMA	
Recovery planning	FEMA	As designated.
White House information, White House responses	FEMA	EACT.

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Assess the nature and extent of the radiological emergency and its potential offsite effects on public health and safety. Advise the State and local agencies based on this assessment.
- Develop Federal recommendations on protective actions for State and local governments that consider, as appropriate, all substantive views of other Federal agencies. Whenever possible, coordinate presentation of protective action recommendations with FEMA prior to or during their presentation to appropriate State and local officials (the State Governor or designee), except in situations of imminent peril to the public health and safety where the DoE may be required to make independent contact with State and local officials.
- Provide for the release of public information concerning the radiological emergency, except for the release of information classified for national security purposes. Coordinate such releases to the extent possible with the Senior FEMA Official, other Federal agencies, and the State to provide consistent and accurate information to the public by the most expeditious means.

5. DoE Response Plan and Procedure References

- *Emergency Planning, Preparedness, and Response for Operations,* Order DoE 5500.2, August 1981.
- *Reactor and Nonreactor Facility Emergency Planning, Preparedness, and Response Program for Department of Energy Operations,* Order DoE 5500.3, August 1981.
- *Public Affairs Policy and Planning Requirements for Emergencies,* Order DoE 5500.4, August 1981.
- *Response to Accidents and Significant Incidents Involving Nuclear Weapons,* Order DoE 5530.1, January 1983.

6. DoE Specific Authorities

- *Atomic Energy Act of 1954* as amended.
- *Energy Reorganization Act of 1974.*
- *Department of Energy Organization Act of 1977.*
- *Nuclear Waste Policy Act of 1982 (Public Law 97–425).*

Department of Energy Response Plan Summary (FRMAP)

1. Summary of Response Mission

Independent of its responsibilities as a CFA, the Department of Energy (DoE) maintains and implements, during the initial phase of a radiological emergency, the Federal Radiological Monitoring and Assessment Plan (FRMAP). Under FRMAP DoE provides and coordinates Federal offsite radiological monitoring and assessment support to the CFA and to the State and local governments. DoE's support is augmented by several other Federal agencies including FEMA, NRC, EPA, HHS, USDA, DoC, DoD, and DoI. The FRMAP establishes the framework for coordinating the monitoring and assessment activities of the Federal agencies.

2. Point of Notification at DoE Headquarters

Contact Person's Title: Duty Officer.

Contact Person's Organization: Emergency Action and Coordination Team.

Contact Person's Emergency Location: Emergency Operations Center.

3. Federal Department or Agency Interfaces

Listed below are the DoE's interfaces with other Federal agencies and departments in responding to a radiological emergency. DoE's Radiological Control Division is largely responsible for coordinating DoE's reponse effort within DoE and among the Federal agencies.

DEPARTMENT OF ENERGY FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible DoE organization
Status updates	NRC (CFA), EPA, FEMA, DoC, USDA, HHS, DoI, DoD (CFA), DoE (CFA).	Radiological assistance program (RAP) team.
FRMAP (notification)	EPA, HHS, USDA, DoC, DoT, DoI, DoD (CFA), NRC (CFA), DoE (CFA).	Emergency action and coordination team (EACT).
FRMAP (coordination with FRERP)	EPA, HHS, USDA, DoC, DoI, DoD (CFA), NRC (CFA), DoE (CFA), FEMA.	RAP team/offsite technical director (OSTD).
FRMAP (liaison)	EPA, FEMA, NRC, DoD, DoE, (CFA), EPA	RAP team/OSTD.
FRMAP (monitoring results)	NRC (CFA), DoD (CFA), DoE (CFA), EPA	RAP team/OSTD.
FRMAP (transition)	EPA	EACT, RAP team/OSTD.
Recovery planning	FEMA	As designated.
Information exchange, public information releases from the JIC.	DoD (CFA), NRC (CFA) during emergency phase	RAP team/OSTD.
Public information releases from headquarters	FEMA during recovery phase	EACT.
Congressional information	FEMA, NRC (CFA), DoD (CFA), DoE (CFA), EPA	Assistant Secretary for congressional, intergovernmental, and public affairs.
PAR (development)	NRC (CFA), DoD (CFA), DoE (CFA)	RAP team/OSTD.
Radiation victim care advice	HHS	Radiological emergency assistance center/training site (REAC/TS).
Logistical support for Federal agencies	FEMA	RAP team/OSTD.
Coordination (offsite)	FEMA	RAP team/OSTD, EACT.
Designation of agency lead official	FEMA	EACT.

DEPARTMENT OF ENERGY FEDERAL AGENCY INTERFACES—Continued

Interface description	Agencies	Responsible DoE organization
Federal response center	FEMA	RAP team/OSTD.
White House responses	FEMA	EACT.

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Coordinate the offsite radiological monitoring, assessment, evaluation, and reporting of all Federal agencies during the initial phases of an incident, and maintain liaison with State and local agencies with similar responsibilities.
- Maintain a common set of offsite radiological monitoring data, and provide it with interpretation to the CFA and to appropriate State and local agencies requiring direct knowledge of radiological conditions.
- Provide HHS and other Federal, State, and local agencies with technical and medical advice concerning treatment of radiological contamination, if requested.

5. DoE Response Plan and Procedure References

Agency Response Plan

1. The Federal Radiological Monitoring and Assessment Plan Chapter III of the FRERP

Interagency Procedures

1. *Agreement between ERDA and NRC for Planning, Preparedness, and Response to Emergencies* March 8, 1977
2. *Operational Response Procedures (ORPs) Developed Between HHS, DoE, EPA, and the NRC* 1983
3. *DoE-EPA Letter of Agreement on Notification of Incidents at DoE Facilities* January 18, 1978
4. *National Plan for Radiological Emergencies at Commercial Nuclear Power Plants,* DoC–NOAA, November 1982.

6. DoE Specific Authorities

- *The Energy Reorganization Act of 1974* (Pub. L. 93–438).
- *The Department of Energy Organization Act of 1977* (Pub. L. 95–91).

Department of Health and Human Services Response Plan Summary

1. Summary of Response Mission

In a radiological emergency, the Department of Health and Human Services (HHS) assists with the assessment, preservation, and protection of human health and helps ensure the availability of essential human services. HHS provides technical and nontechnical assistance in the form of advice, guidance, and resources to Federal, State, and local governments.

2. Point of Notification at HHS Headquarters

Contact Person's Title: Emergency Coordinator.

Contact Person's Division: Division of Emergency Coordination.[1]

Contact Person's Emergency Location: Emergency Operating Center, Room 3B–10, Hubert H. Humphrey Building, Washington, D.C. 20201.

3. Federal Department or Agency Interfaces

Listed below are HHS's interfaces with other Federal departments and agencies in responding to a radiological emergency.

DEPARTMENT OF HEALTH AND HUMAN SERVICES FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible HHS organization
Notification (FEMA)	FEMA	Emergency coordinator, regional emergency coordinator.
Status updates	FEMA, DoD (CFA), DoE (Not as (CFA), DoE (CFA), NRC (CFA).	Emergency coordinator, regional emergency coordinator.
Information exchange logistical support for Federal agencies	FEMA	Emergency coordinator, regional emergency coordinator, operating division(s).
Coordination (offsite)	FEMA	Regional emergency coordinator (OS), Public Health Service (FDA).
Coordination (liaison)	USDA	Public Health Service.
Information requirements	DoD (CFA), DoE (CFA), NRC, FEMA	Public Health Service, Office of the Secretary.
Designation of agency lead official	FEMA	Office of the Secretary (OS).
Public information releases from headquarters, public information releases from the JIC.	DoD (CFA), DoE (CFA), NRC (CFA), during emergency phase; FEMA during recovery phase.	Office of public affairs/OS.
Congressional information	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	Office of legislative liaison/OS.
Recovery planning	FEMA	Public Health Service (CDC/FDA/HRSA), SSA.
Federal response center	FEMA	Regional emergency coordinator.
PAR (development), RER (development)	DoD (CFA), DoE (CFA), NRC (CFA), EPA, USDA	Public Health Service (CDC/FDA/HRSA).
Impact assessment (health)	DoD (CFA), DoE (CFA), NRC (CFA), EPA	Public Health Service (CDC/FDA/HRSA).
Impact assessment (agriculture)	USDA, EPA	Public Health Service (FDA).
Indian tribes	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	Public Health Service (CDC/FDA/HRSA).
FRMAP (resources)	DoE, EPA	Public Health Service (FDA).
Radiation victim care advice	DoE	Public Health Service (HRSA, CDC).
Fishery product safety	DoC	Public Health Service (FDA).
Food availability	USDA	Public Health Service (FDA), Social Security Administration (OFA), Human Development Services (OPCR).
Food/feed safety recommendations, protective action implementation (food).	USDA, DoD (CFA), DoE (CFA), NRC (CFA)	Public Health Service (FDA).
Emergency shelter availability	HUD	Human Development Services.
White House responses	FEMA	Office of the Secretary (OS).

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Assist State and local government officials with jurisdiction in evacuating and relocating persons from the affected area as requested. Ensure the availability of health and medical care, food, emergency shelter, clothing, and other human services, especially for the aged, the poor, the infirm, the blind, and others most in need;

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[1] The Emergency and Epidemiological Operations Branch (EEOB) and the Office of Health Physics (OHP), Food and Drug Administration (FDA), Public Health Service, have made special arrangements with the Cognizant Federal Agencies (CFAs) for direct notification in a radiological emergency.

- Provide grants for crisis counseling to victims in affected geographic areas;
- Provide guidance to State and local officials with jurisdiction on the use of radio-protective substances (e.g., thyroid blocking agents), including doasage and also projected radiation doses that warrant the use of such drugs;
- Based on information from DoE's REACS/TS personnel, advice medical care personnel regarding proper medical treatment of people exposed to or contaminated by radioactive materials;
- Provide advice and guidance to State and local officials with jurisdiction and the CFA, if requested, in assessing the impact of the effects of radiological incidents on the health of persons in the affected area;
- Provide advice and guidance to State and local officials with jurisdiction and the CFA, if requested, in assessing the impact of the effects of radiological incidents on the health of persons in the affected area;
- Provide resources, in coordination with the U.S. Department of Agriculture, to ensure that food and animal feeds are safe for consumption;
- Assist, in coordination with the U.S. Department of Agriculture, in developing technical recommendations for State and local officials with jurisdiction regarding protective measures related to food and animal feed;
- Provide guidance to State and local governments on protective action guides for food and animal feeds; and
- Provide guidance to State and local health officials with jurisdiction when requested on disease control measures and epidemiological surveillance of exposed populations.

5. HHS Response Plan and Procedure References

Agency Response Plan

1. *The Department of Health and Human Services Response Plan for Radiological Emergencies (Draft)* Division of Emergency Coordination March 14, 1983.

Interagency Procedures

1. *Delegation of Authority—Emergency Preparedness Functions* Division of Emergency Coordination December 21, 1981.
2. *Emergency Planning and Operations Manual* Division of Emergency Coordination July 1, 1983.
3. *Disaster Response guides* Operating Divisions Various Dates.

6. HHS Specific Authorities

- *Older Americans Act.*
- *Public Health Service Act.*
- *Food, Drug, and Cosmetic Act of 1938.*
- *Snyder Act,* 25 U.S.C. 13 (1921).
- *Transfer Act,* Pub. L. 83–568.
- *Indian Health Care and Improvement Act,* (Pub. L. 14–437).
- *Federal Civil Defense Act of 1950.*
- *Disaster Relief Act of 1974,* (Pub. L. 93–288)—Section 413, Crisis Counseling, Administration, Training.

Department of Housing and Urban Development Response Plan Summary

1. Summary of Response Mission

The Department of Housing and Urban Development (HUD) provides information on available housing for disaster victims or displaced persons. HUD assists in planning for and placing homeless victims by providing emergency housing and technical and support staff within available resources.

2. Point of Notification at HUD Headquarters

Contact Person's Title: Emergency Coordinator.

Contact Person's Office: Emergency Preparedness Staff (EPS).

Contact Person's Emergency Location: Emergency Preparedness Staff.

3. Federal Department or Agency Interfaces

Listed below are HUD's interfaces with other Federal departments or agencies in responding to a radiological emergency.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible HUD organization
Notification (FEMA, coordination (offsite), designation of agency lead official, logistical support to Federal agencies, information exchange, Federal response center.	FEMA	Emergency preparedness staff.
Information requirements	FEMA, NRC (CFA), DoD (CFA), DoE (CFA)	Emergency preparedness staff.
Public information releases from headquarters, public information releases from the JIC.	DOD (CFA), DoE (CFA), NRC (CFA), during emergency phase; FEMA during recovery phase.	Office of Public Affairs.
Congressional information	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	Office of Legislation and Congressional Relations.
Emergency shelter availability	HHS	Emergency preparedness staff.
Advice on transportation of and to emergency housing	DoT	Emergency preparedness staff.
Recovery planning, White House responses	FEMA	Emergency preparedness staff.

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Review and report on available housing for disaster victims and displaced persons.
- Assist in planning for and placing homeless victims in available housing.
- Provide emergency housing support staff within available resources.
- Provide technical housing assistance and advisory personnel to State and local authorities with jurisdiction.

5. HUD Response Plan and Procedure References

Agency Response Plan

1. HUD *FRERP,* Office of Emergency Preparedness, September 30, 1983.

6. HUD Specific Authorities

None.

Department of the Interior Reponse Plan Summary

1. Summary of Reponse Mission

The Department of the Interior manages over 500 million acres of Federal lands and thousands of Federal natural resources facilities, and is responsible for these lands and facilities when they are threatened by a radiological emergency. In addition, the Department coordinates emergency response plans for Interior-managed park and recreation areas with State and local authorities, and operates Interior water resources projects to protect municipal and agricultural water supplies in cases of radiological emergencies. The Department provides advice and assistance concerning hydrologic and natural resouces, including fish and wildlife, to Federal, State, and local governments upon request. The Department also administers the Federal government's trust responsibility for 488 Federally recognized Indian tribes and villages and about 50 million acres of Indian lands. It also has certain responsibilities for the island territories of the United States.

2. Headquarters Point of Notification

Contact Person's Title: Director, Office of Environmental Project Review (OEPR).

Contact Person's Office: Office of the Secretary, Department of the Interior, Room 4256, Interior Building, Washington, D.C. 20240.

3. Federal Department or Agency Interfaces

DEPARTMENT OF INTERIOR FEDERAL AGENCY INTERFACES

Description	FRERP agency	Responsible DoI organization
Notification (FEMA), coordination (offsite), information exchange, logistical support to federal agencies.	FEMA	OEPR
Designation of agency lead official, status updates, and information requirements.	DoD (CFA), DoE (CFA), NRC (CFA)	OEPR
Federal lands, Indian tribes	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	OEPR (initially).
Public information releases from headquarters, public information releases from JIC.	DoD (CFA), DoE (CFA), NRC (CFA)	Office of public affairs.
Congressional information	DoD (CFA), DoE (CFA), NRC (CFA) during emergency phase; FEMA during recovery phase.	Office of congressional liaison.
FRMAP (resources)	DoE, EPA	U.S. Geological Survey.
Water projects	DoD (Army Corps Engineers), EPA, USDA	OEPR (initially).
White House Reponses	FEMA	OEPR.

4. Reponsibilities for Assistance to Federal, State, and Local Governments

- Provide hydrologic advice and assistance, including monitoring personnel, equipment, and laboratory support.
- Provide advice and assistance in assessing and minimizing offsite consequences on natural resources, including fish and wildlife.
- Provide economic, social, and political advice and assistance to the Territories of Guam, American Samoa, and the Virgin Islands and the Trust Territory of the Pacific Islands (interim).
- Provide cooridnation and liaison between Federal, State, and local agencies and Federally recognized Indian tribal governments.

5. DoI Reponse Plan and Procedure References

Agency Response Plan

1. 910 DM 5 (Draft)—Interior Emergency Operations, Federal Radiological Emergency Response Plan.

2. 296 DM 3 (Draft)—Interior Emergency Delegations, Radiological Emergencies.

6. DoI Specific Authorities

- *Act of 1894* providing for gauging streams and determining the water supplies of the U.S. (28 Stat. 398).
- *The Reclamation Act of 1902,* as amended (43 U.S.C. 391), and project authorization acts.
- *National Park Service Act of 1919* (16 U.S.C. 1), and park enabling acts.
- *The Snyder Act of 1921,* as amended (25 U.S.C. 13), including assistance to Indian tribes.
- *National Wildlife Refuge System Administration Act of 1966,* as amended (16 U.S.C. 668), and refuge enabling acts.
- *Federal Land Policy and Management Act of 1976* (43 U.S.C. 1701).

Department of Transportation Response Plan Summary

1. Summary of Response Mission

The Department of Transportation Radiological Emergency Response Plan for Non-Defense Emergencies (the plan) provides for assistance to State and local governments when a non-defense radiological emergency occurs that has adversely affected any one or more of the several transportation modes. The assistance will be in response to a request from a state or local jurisdiction when a determination has been made that their civil transportation technical or logistical resources are insufficient to adequately handle the requirements created by a radiological emergency.

2. Point of Notification at DoT Headquarters

Contact Person's Title: Director of Emergency Transportation.

Contact Person's Office: Office of Emergency Transportation.

Contact Person's Emergency Location: Headquarters, U.S. Department of Transportation, Washington, D.C. 20590.

3. Federal Department or Agency Interfaces

Listed below are DoT's interfaces with other Federal agencies and departments in responding to a non-defense radiological emergency.

DEPARTMENT OF TRANSPORTATION FEDERAL AGENCY INTERFACES

Interface Description	Agencies	Responsible DoT organization
Status Updates	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	Director of emergency transportation crisis coordinator (when designated).
Notification (FEMA), information exchange, logistical support for Federal agencies, coordination (offsite), and designation of agency lead official.	FEMA	Office of emergency transportation.
Information requirements	FEMA, DoD (CFA), DoE (CFA), NRC	Office of emergency transportation.
Public information release from the JIC, public information release from headquarters.	DoD (CFA), DoE (CFA), NRC (CFA) during emergency phase; FEMA during recovery phase.	Office of public affairs.
Congressional information	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	Office of congressional affairs.
Federal response center	FEMA	Crisis coordinator, regional emergency transportation coordinator (RETCO)
Advice on transportation of and to emergency housing	HUD	Office of emergency transportation (RETCO).
White House responses	FEMA	Crisis coordinator.

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Maintain capability and resources to respond to a request for assistance in a non-defense radiological emergency.
- Provide civil transportation technical and/or logistical resources.
- Coordinate the Federal transportation response in support of emergency transportation plans and actions of State and local authorities.
- Provide, through Regional Emergency Transportation Coordinators (RETCOs), representation to State and local transportation authorities.

5. DoT Response Plan and Procedure References

Agency Response Plan

1. Department of Transportation (DoT) Radiological Emergency Response Plan for Non-Defense Emergencies, November 1983

Intra-Agency Procedures

1. DoT Order 1900.7C, DoT Crisis Action Plan
2. DoT Order 1950.1A, Reports on Non-Defense Transportation Emergencies

6. DoT Specific Authorities

- Public Law 89–670, 1966, the *Department of Transportation Act.*
- Code of Federal Regulations 44 CFR Part 351 (44 CFR Part 351), Radiological Planning and Preparedness—Final Regulations, § 351.25—THe Department of Transportation.

Environmental Protection Agency Response Plan Summary

1. Summary of Response Mission

The Environmental Protection Agency (EPA) assists State and local governments during radiological emergencies in environmental and water supply monitoring, consequence assessment, and protective action decisions. These services may be provided at the request of the Federal or State government through FRMAP, or EPA may respond unilaterally to an emergency in order to fulfill its statutory responsibilities.

2. Point of Notification at EPA Headquarters

Contact Person's Title: Radiological Response Coordinator.

Contact Person's Office: Office of Radiation Programs (ORP).

Contact Person's Emergency Location: Emergency Operations Center.

3. Federal Department or Agency Interfaces

Listed below are EPA's interfaces with other Federal departments or agencies in responding to a radiological emergency.

ENVIRONMENTAL PROTECTION AGENCY FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible EPA organization
Status updates	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	Office of radiation programs (ORP).
FRMAP (notification), FRMAP (resources), FRMAP (monitoring results), FRMAP (coordination with FRERP), FRMAP (transition), FRMAP (liaison).	HHS, DoC, DoD, DoE, DoI, NRC, USDA	ORP.
Water projects	DoD (Army Corps of Engineers), DoI, USDA	ORP.
Impact assessment (Agriculture)	USDA	ORP.
PAR (development), RER (development)	DoD (CFA), DoE (CFA), NRC (CFA), HHS, USDA	ORP.
Information requirements	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	ORP.
Public information releases from headquarters, public information releases from JIC, congressional information.	DoD (CFA), DoE (CFA), NRC (CFA) during emergency phase, FEMA during recovery phase.	Office of Press Services.
Information exchange, logistical support for Federal agencies, coordination (offsite), designation of agency lead official, Federal response center.	FEMA	ORP.
Recovery planning, White House responses	FEMA	ORP.

4. Responsibilities For Assistance to Federal, State, and Local Governments

- Provide resources including personnel, equipment, and laboratory support to assist DoE in monitoring radioactivity levels in the environment during the emergency phase of the incident.
- Assume responsibility from DoE for coordinating Federal intermediate and long-term radiological monitoring after the initial phase of the emergency after receiving adequate assurance from the Department of Energy and other Federal agencies that they will commit the required resources, personnel, and funds for the duration of the Federal response effort.
- Assess the nature and extent of the environmental radiation hazard.
- Provide guidance to Federal agencies and State and local governments with jurisdiction on acceptable emergency levels of radioactivity and radiation in the environment.
- Assist the Cognizant Federal Agency (CFA), as requested, in developing recommended measures to protect the public health and safety.

5. EPA Response Plan and Procedure References

Agency Response Plan

1. *U.S. Environmental Protection Agency Radiological Emergency Response Plan,* Office of Radiation Programs, January 30, 1981.
2. *Letter Agreement between DoE and EPA for Notification of Accidental Radioactivity Releases into the Environment from DoE Facilities;* January 6, 1978.
3. *Operational Response Procedures*—Developed among the Nuclear Regulatory Commission, Environmental Protection Agency, Department of Health and Human Services, and the Department of Energy, November 30, 1982.

Interagency Procedures

1. *Manual of Protective Action Guides and Protective Actions for Nuclear Incidents,* Office of Radiation Programs, September 1975.
2. *Standard Operating Procedures for Radiological Emergency Response,* Appendix 3 to the *EPA Radiological Emergency Response Plan,* Office of Air, Noise, and Radiation, January 1981.
3. *Memorandum of Understanding Between the Federal Emergency Management Agency and the Environmental Protection Agency Concerning the Use of High Frequency Radio for Radiological Emergency Response* (under development), Office of Radiation Programs, Environmental Protection Agency.

6. EPA Specific Authorities

- *President's Reorganization Plan No. 3,* December 2, 1970.
- *Public Health Service Act,* as amended, 42 U.S.C. 241, Section 301, and 42 U.S.C. 243, section 311.

- *Safe Drinking Water Act* (Pub. L. 93–523).

Federal Emergency Management Agency Response Plan Summary

1. Summary of Response Mission

FEMA is responsible for coordinating the Federal response to all radiological emergencies that require a significant, multi-agency Federal presence. FEMA's coordination role promotes an effective and efficient response by Federal agencies at both the national level and at the scene of the emergency. Coordination is achieved at the national level by FEMA through use of FEMA's Emergency Support Team (EST) and at the scene of the emergency between Federal, State, and local agencies by FEMA's Emergency Response Team (ERT). FEMA's ERT includes a FEMA Regional Communications Manager, who is responsible for providing communications management support to the Senior FEMA Official.

2. Point of Notification at FEMA Headquarters

Contact Person's Title: Emergency Action Officer.

Contact Person's Office: Emergency Operations Directorate.

Contact Person's Emergency Location: Emergency Information and Coordination Center (EICC).

3. Federal Department or Agency Interfaces

Listed below are FEMA's interfaces with other Federal departments or agencies in responding to a radiological emergency.

FEDERAL EMERGENCY MANAGEMENT AGENCY FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible FEMA Organization(s)
Notification (FEMA)	DoC, DoI, DoT, DoD (CFA), DoE (CFA), EPA, HHS, HUD, NCS, NRC (CFA), USDA, DoE	EICC (emergency support team (EST), when activated).
Activation and deployment (procedures)	DoD (CFA), DoE (CFA), NRC (CFA)	EICC (EST, when activated).
Status updates	DoC, DoI, DoT, EPA, HHS, HUD, NCS, USDA, DoE	Emergency response team (ERT), EST
Federal lands	DoD, DoE, DoI, USDA	ERT, EST
Federal Response Center	DoC, DoI, DoT, DoD (CFA), DoE (CFA), NRC, EPA, HHS, HUD, NCS, USDA	ERT, EST
Information exchange	DoC, DoI, DoT, DoD (CFA), DoE (CFA), EPA, HHS, HUD, NCS, NRC, USDA	ERT, EST
Logistical support for Federal agencies	DoC, DoI, DoT, DoD (CFA), DoE (CFA), EPA, HHS, HUD, NCS, NRC (CFA), USDA	ERT, EST
PAR (development), PAR (presentation)	DoD (CFA), DoE (CFA), NRC	ERT
PAR and RER dissemination (FEMA)	DoC, DoD, DoE, DoI, DoT, EPA, HHS, HUD, NCS, NRC, USDA	ERT, EST
FRMAP (coordination with FRERP)	DoE, EPA	ERT
FRMAP (liaison)	DoE, EPA	ERT
Coordination (onsite/offsite)	DoD (CFA), DoE (CFA), NRC	ERT
Coordination (offsite)	DoC, DoI, DoT, EPA, HHS, HUD, NCS, USDA	ERT, EST
Information requirements	DoC, DoI, DoT, DoD (CFA), DoE (CFA), EPA, HHS, HUD, NCS, NRC, USDA	EICC and EST
Indian tribes	DoI, HHS	ERT
Designation of agency lead official	DoC, DoI, DoT, DoD (CFA), DoE (CFA), EPA, HHS, HUD, NCS, NRC (CFA), USDA	EST
Public information releases from headquarters, public information releases from JIC	DoD (CFA), DoE (CFA), NRC (CFA) during emergency phase	EST, ERT, (respectively).
Congressional information	DoC, DoI, DoT, DoD (CFA), DoE (CFA), EPA, HHS, HUD, NCS, NRC, USDA	EST, ERT
White House responses	DoC, DoD, DoE, DoI, EPA, HHS, HUD, NCS, NRC, USDA	EST, ERT
White House information	DoD (CFA), DoE (CFA), NRC (CFA) initially	EST
RER (development), RER (presentation)	DoD (CFA), DoE (CFA), NRC (CFA)	ERT
Recovery planning	DoD (CFA), DoE (CFA), NRC, DoC, DoE (non-CFA), DoI, DoT, EPA, HHS, HUD, USDA	ERT
International cooperation	DoS, DoD (CFA), DoE (CFA), NRC	EST, ERT

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Coordinate assistance to State and local governments among the Federal agencies.
- Coordinate among the Federal agencies all offsite response activities, except those pertaining to the FRMAP, and coordinate these with the onsite activities of the Cognizant Federal Agency.
- Work with the CFA to coordinate the dissemination of public information concerning Federal emergency response activities. Promote the coordination of public information releases with State and local governments, appropriate Federal agencies, and appropriate private sector authorities.
- Help obtain logistical support for Federal agencies.

5. FEMA Response Plan and Procedure References

Response Plan

1. *FEMA Emergency Response Operations for Extraordinary Situations: Emergency Support Team Policy and Operations Response Procedures,* February 8, 1984.
2. *Guidance for Emergency Response Team Plans,* August 17, 1982.
3. *Emergency Response Team Plans* for FEMA Regions I, II, III, IV, V, VI, VII, VIII, IX, and X. Various dates

Interagency Procedures

1. *NRC/FEMA Operational Response Procedures for Response to a Commercial Nuclear Reactor Accident* (NUREG–0981; FEMA–51). Rev. 1, January 1984.
2. *Memorandum of Understanding* for Incident Response between the Federal Emergency Management Agency and the Nuclear Regulatory Commission, October 22, 1980.

6. FEMA Specific Authorities

- *Executive Order 11490,* June 15, 1976, as amended.
- *Executive Order 12148,* July 20, 1979.
- *Executive Order 12241,* September 29, 1980.

National Communications System Response Plan Summary

1. Summary of Response Mission

Under the current National Plan for Communications Support in Emergencies and Major Disasters, July 1983,[2] the National Communications

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[2] The National Plan for Communications Support in Emergencies and Major Disasters dated July 1983 is being revised and will be published in October 1984 to reflect changes in the role of the FEMA Regional Communications Manager consistent with the FEMA ERT/EST concept.

System (NCS) coordinates and manages telecommunications support for Federal agencies during radiological emergencies. The General Services Administration (GSA) appoints a Regional Emergency Communications Coordinator (RECC) to provide technical support to the FEMA Regional Director during the pre-emergency or emergency planning phase. The GSA also assigns, on request, a Federal Emergency Communications Coordinator (FECC) to the FEMA Regional Director or Senior FEMA Official (SFO) to head an Emergency Communications Staff (ECS), assess the availability of telecommunications means, and take necessary action to satisfy essential telecommunications requirements in the emergency area. The Emergency Communications Staff is made up of a FEMA-appointed Radio Communications Coordinator (RCC), a Military Communications Representative (MCR), telecommunications industry representatives, and others as needed.

2. Point of Notification at NCS Headquarters

Contact Person's Title: Operations Officer.

Contact Person's Office: Office of Emergency Preparedness (Operations).

Contact Person's Emergency Location: NCS/DCA Operations Center, 8th St. and South Court House Rd., Arlington, VA 22204.

3. Federal Department or Agency Interfaces

Listed below are NCS's interfaces with other Federal departments or agencies in responding to a radiological emergency.

NATIONAL COMMUNICATIONS SYSTEMS FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible NCS organization
Notification (FEMA)	FEMA	Emergency preparedness.
Logistical support for Federal agencies	FEMA	Emergency preparedness.
Information exchange	FEMA	Emergency preparedness.
Designation of agency lead official	FEMA	Emergency preparedness.
Federal response center	FEMA	Federal emergency communications coordinator (FECC) and staff.
Status updates	FEMA	(FECC) and staff.
Information requirements	DoD (CFA), DoE, (CFA), NRC (CFA)	Emergency preparedness.
Congressional information	DoD (CFA), DoE, (CFA), NRC, FEMA	Emergency preparedness.
Public information releases from headquarters, public information releases from the JIC.	DoD (CFA), DoE (CFA), NRC (CFA), during emergency phase; FEMA during recovery phase.	Emergency preparedness.
Recovery planning, White House responses	FEMA	FECC and staff.

4. Responsibilities for Assistance to Federal, State and Local Governments

- Provide and coordinate, in response to a FEMA request, the necessary communications for the Federal government response in accordance with the *National Plan for Communications Support in Emergencies and Major Disasters*, July 1983. Be prepared to provide this support prior to a formal declaration of an emergency or major disaster.
- Provide representation to appropriate State agencies to assist in meeting their communications requirements.

5. NCS Response Plan and Procedure References

Agency Response Plan

1. *National Plan for Communications Support in Emergencies and Major Disasters*, Office of Emergency Preparedness (Operations), July 1983.

Interagency Procedures

1. *Memorandum of Understanding*, GSA and FEMA, January 29, 1980.
2. *Executive Order 12046* (Relates to the transfer of telecommunications functions), The White House, March 27, 1978.

6. NCS Specific Authorities

- *Executive Order 12472*, Assignment of National Security and Emergency Preparedness Telecommunications Functions, April 3, 1984.
- *Executive Order 11490*, October 30, 1969.
- *Executive Order 12046, March 27, 1978.*
- White House Memorandum, *National Security and Emergency Preparedness: Telecommunications and Management and Coordination Responsibilities*, July 5, 1978.

U.S. Nuclear Regulatory Commission Response Plan Summary

1. Summary of Response Mission

The U.S. Nuclear Regulatory Commission (NRC) regulates the use of byproduct, source, and special nuclear material, including activities at commercial and research nuclear facilities. If an incident involving NRC-regulated activities poses a significant threat to the public health or safety or environmental quality, the NRC would be the Cognizant Federal Agency (CFA). In such an incident, the NRC is responsible for monitoring the licensee to ensure that appropriate protective action recommendations are being made to offsite authorities in a timely manner. In addition, the NRC will support its licensees and offsite authorities, including confirming the licensee's recommendations to offsite authorities, and will keep the media informed of the NRC's knowledge of the status of the incident. The NRC is also responsible for the development, coordination, and presentation (in conjunction with FEMA) of Federal protective action recommendations and for keep other Federal agencies and entities informed of the status of the incident.

Consistent with NRC's agreement to participate in FRMAP, the NRC may also be called upon to assist in Federal radiological monitoring and assessment activities during incidents for which it is not the CFA.

2. Point of Notification at NRC Headquarters

Contact Person's Title: Headquarters Operations Officer.

Contact Person's Office: Inspection and Enforcement (I&E).

Contact Person's Emergency Location: NRC Operations Center, Bethesda, Maryland.

3. Federal Department or Agency Interfaces

Listed below are the NRC's interfaces with other Federal departments or agencies in responding to a radiological emergency.

NUCLEAR REGULATORY COMMISSION FEDERAL AGENCY INTERFACES

Interface description	Agencies [1]	Responsible NRC organization
Notification (CFA)	FEMA, DoE, EPA, HHS	For all interfaces listed: a. Director of executive team (during initial activation). b. Director of site operations (during expanded activation).
Activation and deployment (procedures)	FEMA	
Status updates	DoC, DoD DoE, EPA, FEMA, HHS, HUD, DoI, NCS, DoT, USDA.	
Information requirements	DoC, DoD, DoE, EPA, FEMA, HHS, HUD, DoI, NCS, DoT, USDA.	
Public information releases from headquarters, public information releases from JIC.	DoD, (CFA), DoE, (CFA), during emergency phase; FEMA during recovery phase.	
Congressional information	DoC, DoD, DoE, EPA, FEMA, HHS, HUD, DoI, NCS, DoT, USDA, FEMA, DoE (FRMAP).	
Coordination (liaison)	FEMA, DoE (FRMAP)	
White House information, White House responses	FEMA	
PAR (development) RER (development)	FEMA, DoE EPA, HHS, USDA	
PAR and RER dissemination (CFA)	DoE (FRMAP), EPA (FRMAP)	
Federal lands	DoD, DoE, DoI, USDA	
Food/feed safety recommendations	HHS, USDA	
FRMAP (monitoring results)	DoE, (FRMAP)	
FRMAP (resources)	DoE, (FRMAP), EPA, (FRMAP)	
Impact assessment (Health)	HHS, EPA	
Indian tribes	DoI, HHS	
PAR (presentation), Logistical support for Federal agencies, Coordination (onsite/offsite), information exchange, designation of agency lead official, international cooperation (CFA), Federal response center.	FEMA	For all interfaces listed: a. Director of executive team (during expanded activation). b. Director of site operations (during expanded activation).
RER (presentation), PAR and RER dissemination (CFA)	FEMA, DoE EPA, HHS, USDA, DoE (FRMAP), EPA (FRMAP)	
Recovery planning	FEMA	

[1] Periodic communications will be conducted with those agencies with which NRC has formal agreements, i.e., FEMA, DoE, EPA, HHS. Interfaces with other agencies will occur as required.

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Assess the nature and extent of the radiological emergency and its potential offsite effects on public health and safety. Advise the State and local agencies with jurisdiction based on this assessment.
- Assess the facility operator's recommendations and, if needed, develop Federal recommendations on protective actions for State and local governments with jurisdiction that consider, as required, all substantive views of other Federal agencies. Whenever possible, coordinate presentation of protective action recommendations with FEMA prior to or during their presentation to appropriate State and local officials (the State Governor or designee), except in situations of imminent peril to the public health and safety where the NRC may be required to make independent contact with State officials.
- Provide for the release of public information concerning the radiological emergency, except for the release of information classified for national security purposes. Coordinate such releases to the extent possible with the Senior FEMA Official, other Federal agencies, and the State to provide consistent and accurate information to the public by the most expeditious means.

5. NRC Response Plan and Procedure References

Response Plan

1. *NRC Incident Response Plan* Revision 1 (NUREG–0728), NRC Office of Inspection and Enforcement, April 1983.

Interagency Procedures

1. *Agency Procedures for the NRC Incident Response Plan* (NUREG–0845), NRC Office of Inspection and Enforcement, February 1983.
2. *NRC/FEMA Operational Response Procedures for Response to a Commercial Nuclear Reactor Accident*, (NUREG–0981; FEMA–51), Rev. 1, January 1984.
3. *Operational Response Procedures Developed Between NRC, EPA, HHS, and DOE, 1982.*
4. Memorandum of Understanding for Incident Response Between the Federal Emergency Management Agency and the Nuclear Regulatory Commission, October 22, 1980.

6. NRC Specific Authorities

- *Atomic Energy Act of 1954, as amended.*
- *Energy Reorganization Act of 1974.*
- 10 CFR Parts 0 to 199.

U.S. Department of Agriculture Response Plan Summary

1. Summary of Response Mission

The United States Department of Agriculture (USDA) is responsible for assisting State and local governments in developing agricultural protective measures and damage assessments. Other radiological emergency responsibilities of the USDA include: providing for the procurement of food for emergency feeding programs; ensuring that meat and meat products, poultry and poultry products, and eggs and egg products are safe for public consumption; and providing technical information and advice to farmers to aid in their recovery from the emergency.

2. Point of Notification at USDA Headquarters

Contact Person's Title: USDA Emergency Coordinator, Director, Intergovernmental Affairs, Room 102–A, Administration Building, Washington, D.C. 20250.

Contact Person's Office: Office of Intergovernmental Affairs, USDA.

3. Federal Department or Agency Interfaces

Listed below are USDA's interfaces with other Federal agencies in responding to a radiological emergency.

DEPARTMENT OF AGRICULTURE FEDERAL AGENCY INTERFACES

Interface description	Agencies	Responsible USDA organization
Notification (FEMA)	FEMA	Governmental and Public Affairs (GPA)/Office of Intergovernmental Affairs (OIA).
Status updates	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	GPA/OIA, Food Safety Inspection Service (FSIS), Office of Emergency Planning (OEP).
Information requirements	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	GPA/OIA, FSIS/OEP.
PAR (development), RER (development)	DoD (CFA), DoE (CFA), NRC (CFA), EPA, HHS	GPA/OIA, FSIS/OEP.
Public information releases from headquarters, public information releases from joint information center (JIC).	DoD (CFA), DoE (CFA), NRC (CFA), during emergency phase; FEMA during recovery phase.	GPA/Office of Information (OI).
Congressional information	DoD (CFA), DoE (CFA), NRC (CFA), FEMA	GPA/OI, GPA/Congressional relations (CR).
Coordination (offsite)	FEMA, HHS, EPA	GPA/OIA, FSIS/OEP.
Information exchange, designation of agency lead official, and logistical support for Federal agencies.	FEMA	GPA/OIA, FSIS/OEP, GPA/OIA, FSIS, Office of Operations (00).
Federal lands	DoD, DoE, DoI	GPA/OIA, FSIS/OEP.
FRMAP (notification), (resources), (liaison)	DoE, EPA	GPA/OIA, FSIS/OEP, USDA State/county resources as required.
Impact assessment (agriculture)	HHS, EPA	GPA/OIA, FSIS/OEP, USDA State/county resources as required.
Protective action implementation (food)	HHS, FEMA	GPA/OIA, FSIS/OEP, USDA State/county resources as required.
Food/feed availability, food/feed safety recommendations	HHS, FEMA, DoD (CFA), DoE (CFA), NRC (CFA)	GPA/OIA, FSIS/OEP, USDA State/county resources as required.
Water projects	DoD (Army Corps of Engineers), DoI, EPA	GPA/OIA, FSIS/OEP.
Recovery planning	FEMA	GPA/OIA, FSIS (OEP), USDA State/county resources as required.
White House responses	FEMA	GPA/OIA, FSIS (OEP).

4. Responsibilities for Assistance to Federal, State, and Local Governments

- Provide emergency food coupon assistance in officially designated disaster areas whenever a predetermined threshold of need is reached and the commercial system is sufficiently viable to accommodate the use of food coupons.
- Assist in providing livestock feed.
- Provide assistance through regular USDA programs if legally adaptable to radiological emergencies.
- Advise and assist State and local officials on the disposition of livestock and poultry affected by radiation. Coordinate this action with the EPA and HHS.
- Ensure the purity and wholesomeness of meat and meat products, poultry and poultry products, and eggs and egg products.
- Provide for the procurement of food.
- Assist State and local officials, in coordination with HHS and EPA, in the implementation of protective measures to minimize contamination through food ingestion.
- Assist in coordination with HHS and EPA in the emergency production, processing, and distribution of food during a radiological emergency, and assess damage to agricultural resources.
- Provide advice to State and local officials on how to minimize losses to agricultural resources from radiation effects.
- Provide information and assistance to farmers and others to aid them in returning to normal after a radiological emergency.
- Assist in reallocation of USDA donated food supplies from Commodity Credit Corporation stocks stored in warehouses, local schools, and other outlets to emergency care centers.
- Provide a liaison to State agricultural agencies to keep State and local officials informed of Federal efforts.

5. USDA Response Plan and Procedure References

1. *USDA Radiological Emergency Response Plan,* April 1984.

6. USDA Specific Authorities

- Title 7, U.S.C.

Appendix A—Acronyms*

ARAC	Atmospheric Release Advisory Capability
CFA	Cognizant Federal Agency
CFAO	Cognizant Federal Agency Official
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CLO	Congressional Liaison Officer
DoC	Department of Commerce
DoD	Department of Defense
DoE	Department of Energy
DoI	Department of the Interior
DoJ/FBI	Department of Justice/Federal Bureau of Ivestigation
DoS	Department of State
DoT	Department of Transportation
DSFO	Deputy Senior FEMA Official
DSO	Director of Site Operations, NRC
EACT	Emergency Action and Coordination Team, DoE
EICC	Emergency Information and Coordination Center, FEMA
EOC	Emergency Operations Center, DoE
EOF	Emergency Operations Facility, Licensee
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FRC	Federal Response Center
FRERP	Federal Radiological Emergency Response Plan
FRMAC	Federal Radiological Monitoring and Assessment Center, DoE or EPA
FRMAP	Federal Radiological Monitoring and Assessment Plan (DoE)
FRPCC	Federal Radiological Preparedness Coordinating Committee
HHS	Department of Health and Human Services
HUD	Department of Housing and Urban Development
IRAP	Interagency Radiological Assistance Plan
JIC	Joint Information Center
JNACC	Joint Nuclear Accident Coordinating Center
LAO	Lead Agency Official
LNO	Liaison Officer
NCS	National Communications System
NOAA	National Oceanic and Atmospheric Administration, DoC
NRC	Nuclear Regulatory Commission
NWS	National Weather Service
OSTD	Offsite Technical Director, DoE
PAG	Protective Action Guide
PAR	Protective Action Recommendation
PIO	Public Information Officer
RAC	Regional Assistance Committee
RAP	Radiological Assistance Program, DoE
RER	Other Protective Measure and Reentry Recommendation
SCO	State Coordinating Officer

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* This Appendix does not include acronyms that are defined in the Agency Response Plan Summaries (Section IV).

SFO	Senior FEMA Official
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey

Appendix B—Definitions

Accident Response Group (ARG)—A DoE team of scientists, engineers, and technicians that is trained, organized, and equipped to respond to a nuclear weapons accident/incident.

Agency Lead Official—The designated official in each participating agency authorized to direct that agency's response to the radiological emergency.

Agreement State—A State that has entered into an Agreement under the *Atomic Energy Act of 1954*, as amended, in which NRC has relinquished to such States the majority of its regulatory authority over source, byproduct, and special nuclear material in quantities not sufficient to form a critical mass.

Assessment—The evaluation and interpretation of radiological measurements and other information to provide a basis for decision-making. Assessment can include projections of offsite radiological impact.

Cognizant Federal Agency (CFA)—The Federal agency that owns, authorizes, regulates, or is otherwise deemed responsible for the radiological activity causing the emergency and that has the authority to take action on site.

Cognizant Federal Agency Official (CFAO)—The lead official designated by the CFA to manage its response at the site of a radiological emergency.

Coordinate—To bring into common action so as not to unnecessarily duplicate or omit important actions. Coordination does not involve direction of one agency by another.

DoE Emergency Operations Center (EOC)—The center located at DoE headquarters through which DoE's EACT coordinates a FRMAP multi-agency response to a radiological emergency.

DoE Team Leader—The individual designated by the Director of the Emergency Action and Coordination Team (EACT) to manage all DoE field activities in response to an accident/incident if DoE has onsite responsibilities. The DoE Team Leader primarily supervises onsite operations.

Emergency—Any natural or man-caused situation that results in or may result in substantial injury or harm to the population or substantial damage to or loss of property.

Emergency Action and Coordination Team (EACT)—The DoE senior management team at headquarters that coordinates the initial FRMAP response to radiological emergencies.

Emergency Response Team (ERT)—The FEMA team deployed to a radiological emergency scene by the FEMA Director to make an initial assessment of the situation and then provide FEMA's primary response capability.

Emergency Support Team (EST)—The FEMA headquarters team that carries out notification, activation, and coordination procedures from the FEMA EICC. The EST is responsible for Federal agency headquarters coordination, staff support of the FEMA Director, and support of the SFO.

Federal Radiological Monitoring and Assessment Plan (FRMAP)—A center usually established at an airport near the scene of a radiological emergency from which the DoE Offsite Technical Director conducts the FRMAP response. This center generally need not be located near the onsite or Federal-State operations centers as long as its operations can be coordinated with them.

Federal Radiological Monitoring and Assessment Center (FRMAC)—A plan to provide coordinated radiological monitoring and assessment assistance to the State and local governments in response to radiological emergencies. This plan, authorized by 44 CFR Part 351, is a revised version of the Interagency Radiological Assistance Plan.

Federal Response Center—A center established by FEMA at a location identified in conjunction with the State that serves as a focal point for Federal response team interactions with the State.

Fixed Nuclear Facilities—Stationary nuclear installations that use or produce radioactive materials in their normal operations. These facilities include commercial nuclear power plants and other fixed facilities.

Interagency Radiological Assistance Plan (IRAP)—A Plan originally published in 1965 by an interagency committee of Federal agency representatives as a means for providing rapid and effective radiological assistance in the event of a peacetime radiological incident. This plan has been superseded by the FRMAP.

Joint Information Center (JIC)—A central point of contact for all news media at the scene of the incident. News media representatives are kept informed of activities and events via public information officials from all participating Federal, State, and local agencies, who, ideally, are co-located at the JIC.

Joint Nuclear Accident Coordinating Center (JNACC)—A joint DoE/DoD capability at Kirtland Air Force Base, Albuquerque, New Mexico, responsible for maintaining current information on the location of specialized DoE and DoD teams or organizations capable of providing nuclear weapons accident assistance.

Liaison Officer (LNO)—A Federal agency official sent to another agency to facilitate interagency communications and coordination.

License—A license issued to a facility owner or operator by the NRC pursuant to the conditions of the *Atomic Energy Act of 1954* (as amended), or issued by an Agreement State pursuant to appropriate State laws. NRC licenses certain activities under section 170(a) of that Act.

Limited Response—Response to a request for radiological assistance that involves limited DoE or other agency resources and does not require the formal field management structure.

Local Government—Any county, city, village, town, district, or political subdivision of any State, any Indian tribe or authorized tribal organization, or Alaska Native village or organization, including any rural community or unincorporated town or village or any other public entity.

Monitoring—The use of sampling and radiation detection equipment to determine the levels of radiation.

National Contingency Plan—An operations plan required to outline the Federal response to radiological emergencies at commercial nuclear power plants. In Executive Order 12241, the President delegated to FEMA the responsibility for the development and promulgation of such a plan in response to Pub. L. 96–295.

National Defense Area (NDA)—An area established by a DoD official on non-Federal lands located within the United States, its possessions, or its territories for the purpose of safeguarding classified defense information or protecting DoD equipment or material. Establishment of a National Defense Area temporarily places such non-Federal lands under the effective control of DoD and results only from an emergency event. The senior DoD representative at the scene will define the boundary, mark it with a physical barrier, and post warning signs.

National Radiological Emergency Preparedness/Response Plan For Commercial Nuclear Power Plant Accidents (Master Plan)—Commonly referred to as the Master Plan, this document was published by FEMA for interim use in December 1980 and represented the first step towards developing Federal radiological emergency response plans and procedures.

National Security Area (NSA)—An area established by DoE on non-Federal lands located within the United States, its possessions, or territories, for the purpose of safeguarding classified or restricted information, or protecting DoE equipment or material. Establishment of a NSA temporarily places such non-Federal lands under the effective control of DoE and results only from an emergency event. The senior DoE representative having custody of the material at the scene will define the boundary, mark it with a physical barrier, and post warning signs.

Nuclear Weapon Accident—An unexpected event involving nuclear weapons or radiological nuclear weapon components that results in any of the following:

- Accidential or unauthorized launching, firing, or use by U.S. forces or U.S.-supported allied forces of a nuclear capable weapons system that could create the risk of an outbreak of war;
- Nuclear detonation;
- Non-nuclear detonation or burning of a nuclear weapon or radiological nuclear weapon component;
- Radioactive contamination;
- Seizure, theft, loss, or destruction of a nuclear weapon or radiological nuclear weapon component, including jettisoning; and
- Public hazard, actual or implied.

Nuclear Weapon Significant Incident—An unexpected event involving nuclear weapons or radiological nuclear weapon components which does not fall in the nuclear weapon accident category but:

- Results in evident damage to a nuclear weapon or radiological nuclear weapon component to the extent that major rework, complete replacement, or examination or recertification by DoE is required;
- Requires immediate action in the interest of safety or nuclear weapons security;
- May result in adverse public reaction (national or international) or premature release of classified information; and
- Could lead to a nuclear weapon accident and warrants high officials of the signatory agencies being informed or taking action.

Off Site—The area outside the boundary of the onsite area.

Off Site Federal Support—Federal assistance in mitigating the offsite consequences of an emergency and protecting the public health and safety, including assistance with determining and implementing public protective action measures.

Off Site Technical Director (OSTD)—The DoE or EPA official designated to coordinate the Federal radiological monitoring and assessment activities under the Federal Radiological Monitoring and Assessment Plan.

On Site—The area within (a) the boundary established by the owner or operator of a fixed nuclear facility; or (b) the boundary established at the time of the emergency by the State or local government with jurisdiction for a transportation accident not occurring at a fixed nuclear facility and not involving nuclear weapons; or (c) the area established by the CFA as defined by a National Defense Area or National Security Area in a nuclear weapons accident or weapon significant incident.

On-Scene Commander—The military officer of senior DoE official who commands DoD and DoE forces and supervises all DoD and DoE operations at the scene of a DoD/DoE nuclear weapon accident or weapon significant incident.

Onsite Federal Support—Federal assistance that is the primary responsibility of the Federal agency that owns, authorizes, regulates, or is otherwise deemed responsible for the radiological facility or material being transported, i.e., the CFA. This response supports State and local efforts by supporting the owner or operator's efforts to bring the incident under control and thereby prevent or minimize offsite consequences.

Other Protective Measures and Re-entry Recommendations (RERs)—Advice provided to the State concerning guidance on actions necessary to avoid or minimize exposure to residual radiation or exposure through the ingestion pathway. Also advice provided to the State concerning guidance that may be issued to members of the public on returning to an area affected by a radiological emergency, either permanently or for short-term emergency actions.

Owner or Operator—The organization that owns or operates the nuclear facility or carrier, or cargo that causes the radiological emergency. The owner or operator may be a Federal agency, a State or local government, or a private business.

Participating Agencies—44 CFR Part 351 establishes the Federal Radiological Preparedness Coordinating Committee (FRPCC), which has approved the establishment of the Subcommittee on Federal Response. The 12 agencies represented on this Subcommittee are referred to as the participating agencies in the FRERP. They are: FEMA, NRC, EPA, HHS, DoE, USDA, DoC, DoT, DoD, DoI, HUD, and NCS.

Protective Action Guide (PAG)—A radiation exposure level or range established by appropriate Federal or State agencies beyond which protective action should be considered.

Protective Action Recommendation (PAR)—Advice to the State on emergency measures it should consider in determining action for the public to take to avoid or reduce their exposure to radiation.

Public Information Officers (PIOs)—Federal agency officials at headquarters and in the field responsible for preparing and coordinating the dissemination of public information in cooperation with other responding Federal, State, and local agencies.

Radiological Assistance Program (RAP) Team—A team dispatched to the site of a radiological incident by the DoE regional office responding to a radiological incident.

Radiological Emergency—A type of radiological incident that poses an actual or potential hazard to public health or safety or loss of property.

Radiological Transportation Incident—Any incident that involves a transportation vehicle or shipment containing radioactive materials.

Recovery Plan—A plan developed by the State to restore the affected area with Federal assistance if needed.

Senior FEMA Official (SFO)—Official appointed by the Director of FEMA, or his representative, to direct the FEMA response at the scene of a radiological emergency.

State Coordinating Officer (SCO)—An official designated by the Governor of the affected State to work with the CFAO and SFO in coordinating the response efforts of Federal, State, local, volunteer, and private agencies.

Subcommittee on Federal Response—A Subcommittee of the Federal Radiological Preparedness Coordinating Committee formed to develop and test the Federal Radiological Emergency Response Plan. Most agencies that would participate in the Federal radiological emergency response are represented on this Subcommittee.

Transportation of Radioactive Materials—Refers to the loading, unloading, movement, or temporary storage en route of radioactive materials.

Appendix C—Federal Emergency Phone and Facsimile Numbers

Federal department or agency	Contact person's title	Phone No. and facsimile
DoC	Chief, Applied Services Branch (AR) NOAA/NWS Communications Branch.	(301) 427-7858, (301) 427-7889. (FTS) 763-8189.
DoD	Deputy Director of Operations (DDO).	(202) 697-6340 (24-Hour). (Auto) 227-6340. (FTS) 697-6340.
DoE	Emergency Coordinator	(301) 353-5555. (FTS) 233-5555.
HHS	do	(202) 475-0276.
HUD	do	(202) 755-6020. (202) 756-6417 (After Hours).
DoI	Director, Office of Environmental Project Review.	(202) 343-3891. (FTS) 343-3891. (202) 248-8258 (Res). (202) 533-0488 (Alt Res).
	U.S. Park Police	(202) 426-6600 (24-Hour). (FTS) 426-6000 (24-Hour).
DoT	Director of emergency Transportation.	(202) 426-4262 (Ofc). (202) 426-1830. (Dot/USCG Duty Officer after normal duty hours).
EPA	Radiological Response Coordinator.	(703) 557-7390. (FTS) 557-7390. (FAX) 235-9027 (DEX-4100).
FEMA	Emergency Action Officer.	(202) 646-2400.
NCS	Operations Officer	(202) 692-2714. (202) 692-2539. (Auto) 231-1787. 851-1790, 851-3740. (FTS) 692-2816 (Ofc). (Auto) 222-2816 (Ofc). (FAX) 692-2714 (Commor FTS).
NRC	Headquarters Operations Officer.	(202) 951-0550 (FAX) (301) 492-7285 (Group I, II, III). (301) 492-8187 (Group I, II, III). (301) 492-7376 (Group I, II, III). (301) 492-7293 (Verification).
USDA	USDA Emergency Coordinator.	(FTS) 447-6643 (Days). (703) 491-6751 (Res). (301) 461-2237.

[FR Doc. 84-34087 Filed 9-11-84; 8:45 am]

BILLING CODE 6718-01-M

National Emission Standards for Hazardous Air Polutants; Regulation of Radionuclides

Agency: EPA
Published 10/31/84
49 FR 43906

On April 6, 1983, the EPA, pursuant to section 112 of the Clean Air Act, proposed standards for sources of emissions of radionuclides in four categories: (1) Elemental phosphorus plants; (2) DOE facilities; (3) NRC licensed facilities and non-DOE federal facilities; (4) underground uranium mines. In addition, the Agency decided not to propose standards for the following source categories of radionuclide emissions: (1) Coal-fired boilers; (2) the phosphate industry; (3) other extraction industries; (4) uranium fuel cycle facilities, uranium mill tailings, and management of high-level radioactive waste; and (5) low energy accelerators. The Agency is announcing the withdrawal of its four proposed standards for radionuclide emissions under Section 112 of the Clean Air Act and affirms its original decision not to regulate emissions from the other five source categories considered. The U.S. District Court for the Northern District of California has ordered EPA to take final action on its proposed standards by 10/23/84. The rulemaking record is contained in Docket No. A-79-11. This withdrawal is effective 10/31/84.

National Emission Standards for Hazardous Air Pollutants; Standards for Radon-222 Emissions From Underground Uranium Mines

Agency: EPA
Published 10/31/84
49 FR 43915

This notice announces the Agency's intent, under Section 112 of the Clean Air Act, as amended, to start a program to consider a standard based on bulkheading or related techniques to control radon emissions from underground uranium mines. This standard could be an emission standard, or a design, equipment, work practice, or operational standard, or a combination thereof. The Agency requests interested parties to submit information and comments relative to controlling these emissions.

Information received by April 30, 1985 will be of maxium value.

National Emission Standards for Hazardous Air Pollutants; Standards for Radon-222 Emissions from Licensed Uranium Mills

Agency: EPA
Published 10/31/84
49 FR 43916

This notice announces the Agency's intent, under section 112 of the Clean Air Act, as amended, to consider development of standards to control radon-222 emissions from licensed uranium mills. The Agency requests interested parties to submit information and comments relative to controlling these emissions.

Information received by April 30, 1985 will be of maxium value.

Nuclear Waste Policy Act of 1982; General Guidelines for the Recommendation of Sites for the Nuclear Waste Repositories

Agency: DOE
Published 12/6/84
49 FR 47714

In accordance with the requirements of the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425) (the Act), the DOE is issuing general guidelines for the recommendation of sites for repositiories for the disposal of high-level radioactive waste and spent nuclear fuel in geologic formations. These guidelines will be used in the various steps of the site-selection process, as required by the Act. They are compatible with the regulations issued by the NRC in 10 CFR Part 60 and those proposed by the EPA in 40 CFR Part 191. These guidelines establish performance objectives for a geologic repository system, define the basic technical requirements that candidate sites must meet, and specify how the DOE will implement its site-selection process.

These guidelines were developed by the DOE through the consultation process required by the Act (i.e., consultationwith affected and interested States, the Council on Environmental Quality, the Administrator of the EPA, and the Director of the U.S. Geological Survey) as well as extensive review and comment by interested members of the public, affected Indian tribes, and interested Federal agencies. They have received the concurrence of the NRC, in accordance with the requirements of the Act. The NRC's concurrence decision was rendered on 6/22/84 and published on 7/10/84 (49 FR 28130).

The effective date of the guidelines is 1/7/85.

For further information contact:
Carol L. Hanlon, Office of Geologic Repositories, Office of Civilian Radioactive Waste Management, U.S. Dept. of Energy, 1000 Independence Ave., S.W. Washington, D.C. 20585 (202) 252-1224
Robert Mussler, Esq., Deputy Assistant General Counsel for Environment, Office of General Counsel, U.S. DOE, 1000 Independence Ave., S.W., Washington D.C. 20585, (202) 252-6947

49 FR 47919
Published 12/7/84

Civilian Radioactive Waste Transportation Business Plan; Strategy Options Document

AGENCY: Office of Civilian Radioactive Waste Management, DOE.

ACTION: Notice of availability for comment of the Transportation Business Plan: Strategy options document.

SUMMARY: The Office of Civilian Radioactive Waste Managmeent (OCRWM), U.S. Department of Energy, is developing a Transportation Business Plan related to responsibilities assigned by the Nuclear Waste Policy Act of 1982. The document will provide information on the plans and strategies for the development and operation of the projected system to transport spent fuel or high-level waste as authorized by the Act.

This notice is to announce the availability of a Strategy Options Document, the purpose of which is to provide an opportunity for public reaction and comment. Section I contains background information and defines the purpose, policy basis, and scope of transportation business activities as well as issues related to these activities. Section II discusses the evolving strategy that will direct the Department's business actions and describes various strategy options that are under consideration. Also described is a phased approach for development of the transportation system: systems definition; engineering development and certification; cask fleet procuremetn and carrier negotiations; and transportation operations.

This interim document is specifically intended to be an instrument for interaction to help ensure consensus planning. The Department seeks (1) to identify industry interests in participating with the Department to establish and operate the waste transportation system, and (2) to identify and address State, local and tribal concerns in devlopment of specific strategies and action plans. This is in accord with the principle of consultation and cooperation among affected parties as established by the Waste Policy Act. The Department expects to prepare a Final Transporation Business Plan by the Fall of 1985.

Copies of the Strategy Options Document may be obtained after December 7, 1984, by telephoning (202) 252-5568 and by direct pickup from or writing to the Office of Public Affairs, Transportation Business Plan: Strategy Options Document (OCRWM), U.S. Department of Energy, Room 1E-218, Forrestal Building, 1000 Independence Avenue, SW., Washington, D.C. 20585.

To enable timely consideration, all comments on the Strategy Options Document should be submitted in writing no later than February 5, 1985, to Mr. Robert Philpott, Chief, Transportation Branch, Office of Civilian Radioactive Waste Management, U.S. Department of Energy, RW-33, Forrestal Building, 1000 Independence Avenue, SW., Washington, D.C. 20585.

Issued in Washington, D.C., December 4, 1984.

Robert H. Bauer,
RW-10, Associate Director for Resource Management, Office of Civilian Radioactive Waste Management.

William H. Mellor,
GC-10, Deputy General Counsel for Legislation and Regulations, Office of General Counsel.

Office of Civilian Radioactive Waste Management
Fees for Federal Interim Storage, Calendar Year 1985

Agency: DOE
Published 12/7/84
49 FR 47970

The DOE issued a notice of Fees for Federal Interim Storage of Spent Nuclear Fuel from Civilian Nuclear Power Plants in the U.S. for Calendar Year 1985. The Fees established for Calendar Year 1984 are rescinded on the effective date of the notice.

The notice updates the fees to be levied against users of Federal Interim Storage (FIS) services for spent nuclear fuel as required by section 136(a)(2) of the Nuclear Waste Policy Act of 1982, Pub. L. 97-425, 42 U.S.C. 10101 et seq. (Act). The fees, shown in Table 1, have been updated to ensure full recovery of all costs incurred by the DOE in providing these services. These fees are for calendar year 1985 and replace those in effect for calendar year 1984.

TABLE 1.—Fees for FIS Services Furnished by the Department of Energy, Dollars Per KGU(1) (2)

Capacity of FIS facility (MTU)	Initial fee	Final fee	Total fee
100	310	380	690
300	110	195	305
800	45	150	195
1,500	25	140	165
1,900	20	140	160

[1] The cost of transportation of spent fuel is not included in the above fees. Each user's actual transportation costs will be billed directly after delivery of the fuel is completed.

[2] KGU—the weight of uranium contained in fresh fuel assemblies at the time of insertion into the reactor.

The updated fees will be effective on 1/1/85, and will remain effective for 12 months from effective date.

For further information contact:
J. Roger Hilley, Associate Director, Office of Storage and Transportation Systems (RW-30), Office of Civilian Radioactive Waste Management, DOE, 1000 Independence Ave., S.W. Washington, D.C. 20585, (202)252-9433.

50 FR 4144
Published 1/29/85
Comment period expires 4/1/85

Mine Safety and Health Administration

30 CFR Parts 56 and 57

Metal and Nonmetal Mine Safety and Health, Radiation Standards

AGENCY: Mine Safety and Health Administration, Labor.

ACTION: Advance Notice of proposed rulemaking.

SUMMARY: The Mine Safety and Health Administration (MSHA) invites public participation in its review of existing metal and nonmetal radiation standards (30 CFR 57.5-37 through 47). The Agency has identified specific issues with respect to possible regulatory action. Written comments are solicited.

The purpose of this review is to evaluate the adequacy of the existing standards in providing appropriate protection for workers exposed to radiation hazards in surface and underground operations.

DATE: All written comments should be submitted by April 1, 1985.

ADDRESS: Comments should be sent to Patricia W. Silvey, Director, Office of

Standards, Regulations and Variances, MSHA, 4015 Wilson Boulevard, Arlington, Virginia 22203.

FOR FURTHER INFORMATION CONTACT: **Patricia W. Silvey, Director, Office of Standards, Regulations and Variances, MSHA (703) 235–1910.**

National Emission Standards for Hazardous Air Pollutants; Standards for Radionuclides

Agency: EPA
Published 2/6/85
50 FR 5190

On April 6, 1983, the EPA, pursuant to Section 112 of the Clean Air Act, published in the Federal Register proposed standards for sources of emissions of radionuclides to air. These included the following categories: (1) DOE facilities; (2) NRC-licensed facilities and non-DOE Federal facilities; (3) elemental phosphorous plants; and (4) underground uranium mines. Subsequently, on October 23, 1984, the Agency withdrew its proposed standards for the first three source categories on the grounds that current emission control and operational practices provide an ample margin of safety in protecting the public health from the hazards associated with exposure to airborne radionuclides from these sources.

However, the U.S. District Court for the Northern District of California has ordered the Agency to either promulgate standards for the first three source categories by January 10, 1985, or to find that radionuclides are clearly not a hazardous pollutant, in essence "delisting" the pollutant from regulatory consideration under Section 112 of the Act. Accordingly, the Agency is promulgating final rules for DOE facilities, NRC-licensed and non-DOE Federal facilities, and elemental phosphorous plants. The Court also ordered EPA to promulgate final standards for underground uranium mines. EPA expects to promulgate these standards by April 10, 1985.

50 FR 15386
Published 4/17/85
Effective 4/17/85

40 CFR Part 61

[AD-FRL-2814-7]

National Emission Standards for Hazardous Air Pollutants; Standard for Radon-222 Emissions from Underground Uranium Mines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The U.S. District Court for the Northern District of California has ordered EPA to promulgate a final standard for airborne emissions of radionuclides from underground uranium mines by April 10, 1985, or to find that radionuclides are clearly not a hazardous air pollutant. This final rule is designed to limit exposure of the public to radon-222 emissions from underground uranium mines. The final rule differs in a number of ways from the proposed rule because of changes the Agency has made in response to public comments.

EFFECTIVE DATE: This final rule is effective on April 17, 1985. For existing sources, the standards shall not apply until 90 days after the effective date.

50 FR 15415
Published 4/18/85
Effective 4/18/85

21 CFR Part 179

[Docket No. 84F-0287]

Irradiation in the Production, Processing, and Handling of Food

AGENCY: Food and Drug Administration, HHS.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA) is amending the regulations that permit gamma radiation treatment of food by expanding the specific list of dried spices and vegetable seasonings to include additional herbs, spices, and vegetable seasonings, and blends of these seasonings. This action responds to a petition filed by Radiation Technology, Inc.

DATES: Effective April 18, 1985. Objections by May 20, 1985.

50 FR 18667
Published 5/2/85
Effective 5/2/85

Research and Special Programs Administration

49 CFR Parts 173 and 175

[Docket No. HM-149D, Amendment 173-187]

Exceptions for Specified Quantities of Radioactive Materials

AGENCY: Materials Transportation Bureau (MTB), Research and Special Programs Administration, DOT.

ACTION: Emergency final rule.

SUMMARY: The Materials Transportation Bureau (MTB) is renewing for two years the exceptions (statutory exemptions) for specified quantities of radioactive materials found in 49 CFR 173.4, 173.421–1 and 173.421–2. These exceptions permit the continued transportation by passenger-carrying aircraft of certain quantities of radioactive material under the existing restrictions. These materials do not present a significant hazard to passengers or crew on an aircraft. This action is necessary on an emergency basis because the existing exceptions will expire on May 3, 1985. Under the provisions of section 553 of the Administrative Procedure Act, agencies are permitted to issue a rule in final form when notice and public procedure are impracticable, unnecessary, or contrary to the public interest. This emergency final rule, entitled "Exceptions for Specified Quantities of Radioactive Materials", has been determined not to be a major rule. Its effect will permit the continued transportation by passenger-carrying aircraft of certain quantities of radioactive materials. Delay in the renewal of these provisions would be contrary to the public interest because the limits imposed on the transport of these materials via passenger-carrying aircraft would have an adverse effect on the nuclear industry, and would disrupt routine and ongoing shipments which have been made safely for 10 years under the previous exceptions. Continuation of the exceptions will have a negligible environmental impact and will not impose any additional costs on shippers, carriers or consumers.

EFFECTIVE DATE: May 2, 1985.

FOR FURTHER INFORMATION CONTACT: Lee Jackson, Office of Hazardous Materials Regulation, Materials Transportation Bureau, Washington, D.C. 20590, (202) 426–2075.

SUPPLEMENTARY INFORMATION: On April 18, 1985, in accordance with the provisions of 49 CFR 106.31, the Department of Energy (DOE) requested the Materials Transportation Bureau (MTB) grant an emergency extension to May 3, 1987, to the provisions of 49 CFR 173.4, 173.421–1 and 173.421–2 to permit the continued transportation of specified quantities of radioactive material by passenger-carrying aircraft.

In accordance with section 107 of the Hazardous Materials Transportation Act (HMTA 49 U.S.C. 1806) governing exemptions, the exceptions provided in §§ 173.4, 173.421–1 and 173.421–2 are limited to two years unless reexamined and renewed. These exceptions expire on May 2 and May 3, 1985. Historically, these exceptions have been issued and subsequently renewed under Docket No. HM–149. The legal background and regulatory history of these exceptions can be found in Docket HM-149C (46 FR 24184) published on April 30, 1981, and in preceding amendments dating back to April 17, 1975 (40 FR 17141).

In accordance with 49 U.S.C. 1806 and 49 CFR 106.13, MTB has reexamined the provisions of the exceptions provided in §§ 173.4, 173.421-1 and 173.421-2. Predicated on this review, and based on the very limited hazard posed by the materials excepted by these sections, MTB is (1) extending the effective dates of these exceptions until May 2, 1987 and, (2) clarifying the wording in §§ 173.448(f) and 175.700(c). No substantive changes have been made by these amendments.

The following terms from the **Federal Register** Thesaurus of Indexing Terms apply to this emergency final rule.

List of Subjects

49 CFR Part 173

Hazardous materials transportation. Packaging and containers.

49 CFR PART 175

Air carriers and radioactive materials.

In consideration of the foregoing, 49 CFR Parts 173 and 175 is amended as follows:

PART 173—SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS

1. The authority citation for Part 173 is revised to read as follows:

Authority: 49 U.S.C. 1803, 1804, 1805, 1808; 49 CFR 1.53(e), unless otherwise noted.

2. In § 173.4, paragraph (b) is revised to read as follows:

§ 173.4 Exceptions for small quantities.

* * * * *

(b) A package containing a radioactive material also must conform with the requirements of § 173.421(a) through (e) or § 173.422(a) through (f). After May 2, 1987, a package containing a radioactive material may not be offered for transportation aboard a passenger-carrying aircraft unless that material is intended for use in, or incident to, research, medical diagnosis or treatment.

3. In § 173.421-1, paragraph (b)(2) is revised to read as follows:

§ 173.421-1 Additional requirements for limited quantities of radioactive materials and radioactive instruments and articles.

* * * * *

(b) * * *

(2) Sections 171.15, 171.16, 175.45, and 175.700(b) of this subchapter pertaining to the reporting of incidents and decontamination if transported by aircraft. After May 2, 1987, it is also necessary to comply with §§ 173.448(f) and 175.700(c) of this subchapter.

4. In § 173.421-2, paragraph (d) is revised to read as follows:

§ 173.421-2 Requirements for multiple hazard limited quantity radioactive materials.

* * * * *

(d) After May 2, 1987, a limited quantity radioactive material classed other than radioactive material may not be offered for transportation aboard a passenger-carrying aircraft unless that material is intended for use in, or incident to, research, medical diagnosis or treatment.

5. In § 173.448, paragraph (f) is revised to read as follows:

§ 173.448 General transportation requirements.

* * * * *

(f) No person may offer for transportation aboard a passenger-carrying aircraft any radioactive material that is intended for use in, or incident to, research, medical diagnosis or treatment.

* * * * *

PART 175—CARRIAGE BY AIRCRAFT

6. The authority citation for Part 175 is revised to read as follows:

Authority: 49 U.S.C. 1803, 1804, 1806, 1807, 1808; 49 CFR 1.53(e), unless otherwise noted.

7. In § 175.700, paragraph (c) is revised and the statement of authority at the end of the section is removed as follows:

§ 175.700 Special limitations and requirements for radioactive materials.

* * * * *

(c) Except as provided in §§ 173.4, 173.421-1 and 173.421-2 of this subchapter, no person may carry any radioactive material aboard a passenger-carrying aircraft unless that material is intended for use in, or incident to, research, medical diagnosis or treatment.

* * * * *

Note.—The Materials Transportation Bureau has determined that this emergency amendment is not a major rule under the terms of Executive Order 12291 or significant under DOT's regulatory procedures (44 FR 11034), and does not require Regulatory Impact Analysis, nor does it require an environmental impact statement under the National Environmental Policy Act (42 U.S.C. 4231, et seq.). A regulatory evaluation was not prepared prior to consideration of issuance of this rule, in view of the fact that this is an emergency rule.

Based on information available concerning size and nature of entities likely to be affected, I certify that these amendments will not, as promulgated, have a significant economic impact on a substantial number of small entities.

Based on the potential adverse impact on shippers, carriers and consumers should relief from the compliance date not be granted, I have determined that, under 5 U.S.C. 553(b)(3) (B), public notice and an opportunity to comment would not be in the public interest, and this rule may be made effective in less than 30 days.

Issued in Washington, D.C. on April 29, 1985.

L.D. Santman,

Director, Materials Transportation Bureau.

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50 FR 19538
Published 5/9/85
Comment period expires 7/8/85.

Office of the Secretary

32 CFR Part 218

Guidance for the Determination and Reporting of Nuclear Radiation Dose for DoD Participants in the Atmospheric Nuclear Test Program (1945–1962)

AGENCY: Defense Nuclear Agency.

ACTION: Proposed amendment of final rule.

SUMMARY: The Defense Nuclear Agency proposes to amend its existing guidelines for reporting nuclear radiation doses. The proposed amendment will establish minimum standards which will be uniformly applicable to all branches of the Military Services, governing the preparation of radiation dose estimates in response to inquiries by the Veterans Administration in connection with claim for compensation, or by any veteran or survivor. The proposed amendment will provide explicit instructions requiring that each radiation dose estimate include available information regarding all material aspects of the radiation environment to which the veteran was exposed, including inhaled, ingested and neutron doses.

DATE: Comments must be received on or before: July 8, 1985.

ADDRESS: Written comments should be addressed to the Director, Defense Nuclear Agency, Biomedical Effects Directorate, (STBE), Attn: NTPR Program Manager, Washington, D.C. 20305-1000 or may be hand delivered to 6801 Telegraph Road, Alexandria, Virginia 22310-3398, between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Mr. Robert L. Brittigan, Telephone No. (202) 325-7681.

SUPPLEMENTARY INFORMATION:

Background

On March 14, 1983, in compliance with a Memorandum Order in the case of *Gott* v. *Nimmo*, Civil Action 80–0906, D.D.C., the Defense Nuclear Agency published a final code rule (48 FR 10645) which set forth policies, procedures, and dose reconstruction methodology to establish standardized scientific principles for dose reconstruction methodology for DoD participants in the atmospheric nuclear test program (1945–1962). On March 22, 1985, the United States Court of Appeals for the District of Columbia Circuit reversed the decision of the District Court (Civ. Nos. 82–1159; 82–1448; 82–1454; 80–0906). On October 24, 1984, H.R. 1961, "Veteran's Dioxin and Radiation Exposure Compensation Standards Act," was enacted as Pub. L. 98–542. The Act requires the Defense Nuclear Agency to publish guidelines specifying minimum standards for the reporting of dose estimates.

Regulatory Impact Analysis

In accordance with 5 U.S.C. 12291, the Department of Defense has determined that this proposed amendment is not a "major rule" and is not subject to such an analysis.

Regulatory Flexibility Act

In accordance with 5 U.S.C. 605(b) the Department of Defense has determined that this proposed amendment will not have a significant impact on a substantial number of small entities.

Paperwork Reduction Act

This proposed amendment does not impose any additional reporting or recordkeeping requiring Office of Management and Budget clearance.

List of Subjects in 32 CFR Part 218

Radiation dose determination, Dose reconstruction, Dose reconstruction methodology, Radiation environment, Radioactive materials.

Authority: Pub. L. 98–542, 98 Stat 2725.

Patricia H. Means,

OSD Federal Register Liaison Officer, Department of Defense

May 3, 1985.

PART 218—[AMENDED]

Accordingly, 32 CFR Part 218 is proposed to be amended as follows:

1. The authority citation for Part 218 is revised to read as follows:

Authority: Pub. L. 98–542, 98 Stat. 2725 (38 U.S.C. 354 note.)

2. The Table of Contents in Part 218 is amended to include a new section number and title: § 218.4 Dose Estimate Reporting Standards.

3. In § 218.1 paragraphs (a), (b) and (c) are redesignated as (b), (c), and (d) and a new paragraph (a) is added to read as follows:

§ 218.1 Policies.

(a) Upon request by the Veterans Administration in connection with a claim for compensation, or by a veteran or his or her representative, available information shall be provided by the applicable Military Service which shall include all material aspects of the radiation environment to which the veteran was exposed and shall include inhaled, ingested and neutron doses. The minimum standards for reporting dose estimates are set forth in § 218.4.

* * * * *

4. Section 218.4 is added to read as follows:

§ 218.4 Dose estimate reporting standards.

The following minimum standards for reporting dose estimates shall be uniformly applied by the Military Services when preparing information in response to an inquiry by the Veterans Administration, in connection with a claim for compensation, or by a veteran or his or her representative. The information shall include all material aspects of the radiation environment to which the veteran was exposed and shall include inhaled, ingested, and neutron doses, when applicable. To the extent to which the information is available, the responses will address the following questions:

(a) Can it be documented that the veteran was a test participant. If so, what tests did he attend and what were the specifics of these tests (date, time, yield (unless classified) type, location and other relevant details)?

(b) What unit was the man in? What were the mission and activities of the unit at the test?

(c) To the extent to which the available records indicate, what were his duties at the test?

(d) Can you corroborate the specific information relevant to the potential exposure provided by the claimant to the Veterans Administration and forwarded to the Department of Defense? What is the impact of these specific activities on the claimant's reconstructed dose?

(e) Is there any recorded radiation exposure for the individual? Does this recorded exposure cover the full period of test participation?

(f) If recorded dosimetry data is unavailable or incomplete what is the dose reconstruction for the most probable dose, with error limits, if available?

(g) Is there evidence of a neutron or internal exposure? What is the reconstruction?

Upon request, the participant or his or her authorized representative will be informed of the specific methodologies and assumptions employed in estimating his or her dose.

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50 FR 25624
Published 6/20/85

Federal Policy on Distribution of Potassium Iodide Around Nuclear Power Sites for Use as a Thyroidal Blocking Agent

AGENCY: Federal Emergency Management Agency.

ACTION: Notice of Issuance of Federal Policy.

SUMMARY: The Federal Radiological Preparedness Coordinating Committee (FRPCC) is publishing this notice to provide guidance to State and local agencies responsible for radiological emergency planning and preparedness regarding the distribution of potassium iodide for use as a thyroidal blocking agent by the general public in the vicinity of nuclear power plants. The Federal Emergency Management Agency (FEMA) chairs the FRPCC, thereby assuming the responsibility for this publication.

FOR FURTHER INFORMATION CONTACT: Gerard W. Smith, Technological Hazards Division, Office of Natural and Technological Hazards Programs, State and Local Programs and Support, Federal Emergency Management Agency, 500 C Street SW., Washington, D.C. 20472, 202–646–2869.

SUPPLEMENTARY INFORMATION:

Background

This guidance on distribution of potassium iodide as a thyroidal blocking agent to the general public in the vicinity of nuclear power plants is part of a Federal interagency effort coordinated by the Federal Emergency Management Agency (FEMA) for the Federal Radiological Preparedness Coordinating Committee (FRPCC). FEMA issued a final regulation in the Federal Register of March 11, 1982, (47 FR 10758), which reflected governmental reorganizations and reassigned agency responsibilites for radiological incident emergency response planning. A responsibility assigned to the Department of Health and Human Services (HHS) and in turn delegate to the Food and Drug Administration (FDA) is the responsibility to provide guidance to State and local governments on the use of radioprotective substances and prohylactic use of drugs (e.g.

potassium iodide) to reduce radiation dose to specific organs including dosage and projected radiation exposures at which such drugs should be used.

In the **Federal Register** of June 29, 1982 (47 FR 28158), FDA published recommendations for State and local agencies regarding the projected radiation dose to the thyroid gland at which State and local health officials should consider the use of potassium iodide. The recommendations stated that: (1) Potassium iodide be used during radiation emergencies by people who are likely to receive more than 10 to 20 rads to the thyroid. (2) The drug at the recommended doses could block at least 90 percent of radioiodine absorption if the first dose is given shortly before or immediately after exposure to radioiodine. The drug could still block 50 percent of radioiodine uptake if the first dose is administered within 4 hours after exposure. (3) State and local officials should establish a system for informing the public how to use potassium iodide, how to report side effects of the drug, and how to get treatment for any adverse reactions.

The guidance published here contains the rationale on the use of potassium iodide for emergency workers and institutionalized individuals. It also incorporates the considerations that should be made in deciding to implement the distribution and use of potassium iodide for the general population. The decisions on distribution and use of potassium iodide for thyroidal blocking to protect the public health and safety resides with the State and, in some cases, local health authorities. It suggests that any decision by State and local authorities to use potassium iodide should be based on the site environment and conditions at the time of an emergency for the specific operating commercial nuclear power plant and should include detailed plans for distribution, administration, and medical assistance.

The Federal position with regard to the predistribution or stockpiling of potassium iodide for use by the general public is that it should not be required.

Richard W. Krimm,

Chairman, Federal Radiological Preparedness Coordinating Committee.

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50 FR 30258
Published 7/24/85

Federal Policy on Distribution of Potassium Iodide Around Nuclear Power Sites for Use as a Thyroidal Blocking Agent

AGENCY: Federal Emergency Management Agency.

ACTION: Notice of Issuance of Federal Policy—correction.

SUMMARY: The Federal Radiological Preparedness Coordinating Committee (FRPCC) is publishing this notice to provide guidance to State and local agencies responsible for radiological emergency planning and preparedness regarding the distribution of potassium iodide for use as a thyroidal blocking agent by the general public in the vicinity of nuclear power plants. The Federal Emergency Management Agency (FEMA) chairs the FRPCC, thereby assuming the responsibility for this publication.

In FR Doc. 85–14810 beginning on page 25624 in the issue of Thursday June 20, 1985, the statement of Federal Policy was inadvertently not included. The complete policy is stated herein. In addition, a portion of the Supplementary Information has been deleted because it was inconsistent with previously published Food and Drug Administration policy.

FOR FURTHER INFORMATION CONTACT: Gerard W. Smith, Technological Hazards Division, Office of National and Technological Hazards Programs, State and Local Programs and Support, Federal Emergency Management Agency, 500 C Street SW., Washington, D.C. 20472 202–646–2869.

SUPPLEMENTARY INFORMATION:

Background

This guidance on distribution of potassium iodide as a thyroidal blocking agent to the general public in the vicinity of nuclear power plants is part of a Federal interagency effort coordinated by the Federal Emergency Management Agency (FEMA) for the Federal Radiological Preparedness Coordinating Committee (FRPCC). FEMA issued a final regulation in the Federal Register of March 11, 1982, (47 FR 10758), which reflected governmental reorganizations and reassigned agency responsibilities for radiological incident emergency response planning. 44 CFR 351 A responsibility assigned to the Department of Health and Human Services (HHS) and in turn delegated to the Food and Drug Administration (FDA) is the responsibility to provide guidance to State and local governments on the use of radioprotective substances and prophylactic use of drugs (e.g. potassium iodide) to reduce radiation dose to specific organs including dosage and projected radiation exposures at which such drugs should be used.

In the **Federal Register** of June 29, 1982 (47 FR 28158), FDA published recommendations for State and local agencies regarding the projected radiation dose to the thyroid gland at which State and local health officials should consider the use of potassium iodide.

The guidance published here contains the rationale on the use of potassium iodide for emergency workers and institutionalized individuals. It also incorporates the considerations that should be made in deciding to implement the distribution and use of potassium iodide for the general population. The decisions on distribution and use of potassium iodide for thyroidal blocking to protect the public health and safety resides with the State and, in some cases, local health authorities. It suggests that any decision by State and local authorities to use potassium iodide should be based on the site environment and conditions at the time of an emergency for the specific operating commercial nuclear power plant and should include detailed plans for distribution, administration, and medical assistance.

The Federal position with regard to the predistribution or stockpiling of potassium iodide for use by the general public is that it should not be required.

Policy on Distribution of Potassium Iodide Around Nuclear Power Sites for Use as a Thyroidal Blocking Agency

The purpose of this document is to provide Federal policy and guidance with regard to distribution of potassium iodide (KI) and its usage as a thyroid blocking agent around operating nuclear power sites. The issue has been addressed in terms of two components of the population that might require or desire potassium iodide use: (1) Emergency workers and institutionalized individuals, and (2) general population. This guidance is advisory to State and local governments who, within the limits of their authority, should consider these recommendations in the development of emergency plans and in determining appropriate actions to protect the general public. In summary, the policy recommends the stockpiling or distribution of KI during emergencies for emergency workers and institutionalized persons, but does not recommend requiring predistribution or stockpiling for the general public. The bases for these recommendations are given below. It is recognized, however, that options on the distribution and use of KI rests with the States, and hence, the policy statement permits State and local governments, within the limits of their authority, to take measures beyond those recommended or required nationally.

The U.S. Nuclear Regulatory Commission (NRC) and the *Federal Emergency Management Agency (FEMA) have already issued guidance* to State and local authorities as well as licensees of operating commercial nuclear power plants in NUREG–0654/FEMA–REP–1, Rev. 1, *recommending* the *stockpiling* and *distribution* during emergencies of KI for thyroidal blocking *to emergency workers* and to *institutionalized individuals.* That recommendation is endorsed as an available protective action in the event of an incident at a nuclear power plant. Thyroid blocking for emergency workers and institutionalized individuals was recommended because:

(1) These individuals would be more likely to be exposed to the radioiodine in an airborne radioactive release from the plant in the event of an accident;

(2) The number of individuals involved at any site is relatively small and requires a limited supply of KI that can be readily distributed;

(3) The storage, distribution, and administration of KI can be readily controlled;

(4) The known sensitivity to potassium iodide of this limited number of individuals can be reviewed; and

(5) These individuals can be readily monitored for adverse side effects by medical personnel.

The Federal position with regard to the predistribution or stockpiling of potassium iodide for use by the general public is that it should not be required. While valid arguments may be made for the use of KI, the preponderance of information indicates that a nationwide requirement for the predistribution or stockpiling for use by the general public would not be worthwhile. This is based on the ability to evacuate the general population and the cost effectiveness of a nationwide program which has been analyzed by the NRC and DOE National Laboratories (NUREG/CR-1433). While the use of KI can clearly provide additional protection in certain circumstances, the assessment of the effectiveness of KI and other protective actions and their implementation problems indicates that the decision to use KI (and/or other protective actions) should be made by the States and, if appropriate, local authorities on a site specific basis.

It is important to stress that the use of potassium iodide in a radiation emergency is not a panacea in that it does not block the uptake of other radionuclides and does not protect against external radiation. Furthermore, its use needs to be balanced against the cost and effectiveness of other protective measures such as sheltering and evacuation. This recommendation is made in full recognition of the potential positive effects of the drug, action by the FDA permitting KI over-the-counter sales, and the authority of State and local health officials to elect to distribute and use the drug based on the specific needs of individual sites.

The use of KI is effective as a thyroidal blocking agent in reducing accumulation by the thyroid gland of radioiodine which has entered the body through inhalation or ingestion. Radioiodine accumulation in the thyroid can be reduced to less than 10 percent of what it would be without a blocking agent by a daily oral intake of (130 milligrams for adults, 65 milligrams for infants) KI providing administration is started before or immediately after the exposure to the radioiodine, and treatment continues for at least 48 hours beyond the time of the last exposure. This effectiveness decreases to less than 50 percent blocking of the radioiodine uptake, if administration of the KI is delayed until 4 hours after an acute ingestion or inhalation.

It is recognized that the *options on distribution and use* of KI for thyroidal blocking to protect the public health and safety *resides with* the *State* and, *in some cases, local health authorities.* Therefore, with the exception of Federal agency and utility personnel, the decision for use of KI during an actual emergency by the general public is the responsibility of these authorities. In deciding whether to distribute and use KI for the general population, *these authorities must consider a number of factors.*

One of the considerations in deciding whether to implement the distribution and use of KI for the general population is that KI blocking effectively reduces the radiation exposure of only the thyroid gland. While this is an important contribution to the health and safety of the individual, it is not nearly as effective as measures which protect the total body of the individual from radioactivity. Both in-place sheltering and precautionary evacuations can reduce the exposure to the thyroid and total body. The use of KI for thyroidal blocking is not an effective means by itself for protecting individuals from the radioactivity in an airborne release resulting from a nuclear power plant accident and, therefore, should only be considered in conjunction with sheltering, evacuation, or other protective methods.

The Food and Drug Administration (FDA) has evaluated the medical and radiological risks of administering KI for thyroidal blocking under these emergency conditions and has concluded that it is safe and effective and has approved over-the-counter sale of the drug for this purpose. FDA guidance states that risks from the short term use of relatively low doses of KI for thyroidal blocking in a radiation emergency are outweighed by the risks of radioiodine induced thyroid nodules or cancer at a projected dose to the thyroid gland of 25 rem or greater. Since FDA has authorized the nonprescription sale of KI, it is *legally available to individuals who,* based on their own personal analysis, *choose to have the drug immediately available.*

Other considerations and problems to be evaluated by the State and local authorities in deciding whether to institute this program include: (1) Whether the KI should be distributed to the population before an accident occurs or as soon as possible after an accident occurs; (2) whether the risks of exposure to radioactivity will be lower if the evacuation of the general population is initiated or if the general population is sheltered and the administration of KI initiated; (3) how the KI will be distributed during the emergency; (4) what medical assistance will be available to assist the individuals who may have some adverse reaction to KI; (5) how medical authorities will advise the population to take KI and under what circumstances this advice will be given; (6) if KI is predistributed, what assumptions should be made about its actual availability and use in the event of an incident; (7) how the authorities will provide KI to transient populations; and (8) whether use of other respiratory protection (e.g., dust masks, or breathing through wet towels) may be equally effective, especially in conjunction with sheltering.

In summary, the use of KI to prevent radioiodine from accumulating in the thyroid gland can be an effective ancillary protective action during a nuclear power plant accident. However, many factors make stockpiling and/or pre-distribution to the general public questionable. Whether KI should be stockpiled and distributed to the general public around a particular site depends on local conditions. Additionally, decisions on its use or the use of alternative protective measures during an emergency depends on accident and environmental conditions that may prevail at the time. Any decision by State and local authorities to use KI should be based on the conditions and site environment for the specific operating commercial nuclear power plant and should include detailed plans for distribution, administration, and medical assistance. The following reference are intended to assist State and local authorities in decisions related to use of KI.

1. National Council on Radiation Protection and Measures (NCRP), Protection of the Thyroid Gland in the Event of Releases of Radioiodine. NCRP Report No. 55, August 1, 1977.

2. Food and Drug Administration (HEW), Potassium Iodide as a Thyroid-Blocking Agent in a Radiation Emergency. 43 FR 58798, December 15, 1978.

3. Halperin, J.A., B. Shleien, S.E. Kahana, and J. M. Bilstad, Background Material for the Development of the Food and Drug Administration's Recommendations on Thyroid-Blocking with Potassium Iodide, FDA 81-8158, U.S. Dept. of Health and Human

Services (March 1981).

4. Food and Drug Administration, Potassium Iodide as a Thyroid-Blocking Agent in a Radiation Emergency: Final Recommendations on Use. (Notice of Availability) 47 FR 28158, June 29, 1982.

5. Food and Drug Administration, Potassium Iodide as a Thyroid-Blocking Agent in a Radiation Emergency: Recommendations on Use. (April 1982) *Prepared by the Bureau of Radiological Health and Bureau of Drugs, Food and Drug Administration, Department of Health and Human Services.*

6. Nuclear Regulatory Commission, Examination of the Use of Potassium Iodide (KI) As an Emergency Protective Measure for Nuclear Reactor Accidents (NUREG/CR-1433, March 1980). Prepared by Sandia National Laboratories for the NRC.

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